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THE DOMESTIC AFFAIRS OF BOB-WHITE.

BY JOHN N. CLARK.¹

TO THE man who keeps his eyes and ears open, there are new sources of entertainment and instruction bursting upon his vision at every turn. They often come as surprises — for Nature, ever prolific in resource, offers a new program at every interview. Such were the thoughts that suggested themselves as I took the pen to recount a little episode that afforded much entertainment for me the past summer.

I frequently observed during later June and early July a stately Bob-white stationed on a post near at hand where at early morn and fading day he called out with great energy his weather prognostications with little favor to the haymakers, as if he were a trusted employee of the Weather Bureau.

By the roadside in that immediate vicinity grow numerous patches of what I call scrub. There are hazel scrub, wild rose scrub, and blueberry and dwarf willow scrubs — annually mowed. Mowing does not destroy or discourage them, but puts them in the form so popular in Japan when practiced upon trees kept in plant form by trimming and training. These scrubs, cut to stubs from six to ten inches, renew their annual leaf and vigor and afford nice

¹[This article has a sad interest, owing to the death of the author since the manuscript was received for publication. See 'Notes and News' in the present number of 'The Auk'.—EDD.]

runways for small birds and quadrupeds beneath their green cover, and often a nice nesting place for Madam White, as I have several times observed in the passing years. This year circumstances detained the mowing till Tuesday, the fifth day of August. I hesitate somewhat from fixing this as the exact date as I had no interest at the time nor any thought of the subsequent interest involved. I know it was Tuesday and am strongly impressed with its correctness. Early in the afternoon I took a walk up the road to inspect the progress of my employee and found him skillfully clipping away the weeds and shrubbery that had sprung up by the roadside. Almost his first casual remark was, "There is a quail's nest in the shrubbery the other side of the road." A quail's nest, thought I, pretty late in the season for Bob-white to set up domestic affairs. But my curiosity led me to the spot and a little inspection. Old Bob sprang up out of the shrub with startling whirl of wing and dropped into a small growth of bush a few rods away. The nest was built in a scrub of blueberry bushes that had been cut about ten inches from the ground year after year, interwoven with the annual growth of grasses and weeds pertaining to a wayside. The nest was a neat little bower, deftly woven, covered and concealed. Only a few steps away was the public road with teams, pedestrians and even dogs passing every hour of the day. But little recked Bob-white in his cozy nest for, as I have already intimated, it was Old Bob had possession and twelve, clean, white eggs. A moment's inspection sufficed to satisfy my curiosity and I quietly withdrew to avoid any possible diversion in the domestic affairs of the White family.

It was about this time, or shortly after, in crossing a field a few rods back of this nest, I was startled to find myself in the midst of a flock of young birds, juvenile Bob-whites about the size of an English Sparrow, upspringing on every side and scurrying in every direction, evidently proud of their ability to take wing, though of little use would that be to protect them from old Tabby's paw had she been in my place. What attracted my special attention was the fact of only one old bird being with the flock of little ones and that bird a female Bob-white. I would add further that this flock was observed several times in the following weeks and always with one solitary guide and protector, and that one the mother.

Tuesday, the twelfth day of August, in passing the spot I thought of the White family and turned aside for a moment's interview. I found 'Old Bob' still on guard, promptly responding, relieving himself in haste from his nursery duties with evident solicitude. It brought one matter of interest to my mind, the dictum of a recent writer in one of our ornithological publications that Old Bob never took upon himself any share in the domestic cares and responsibilities of his household, not even to the bringing an occasional tidbit to the wife absorbed in household duties, yet here he was faithfully discharging the whole duties of overseer, house-keeper and wet nurse. And I will add that during the whole period of observation there was no appearance of Madam White at the premises. The nineteenth found 'Old Bob,' ever faithful, unwearied in his devotion to the household and its cares, and my interview was a very brief one.

The twenty-sixth day of August, I was thinking what a fine thing it would be if I could catch 'Old Bob' as incubation was complete and the babies cuddled together in their nursery just ready to launch forth upon life's weary wanderings mid swarming enemies. What a prize it would be for my camera! But no such good fortune awaited me and no change appeared in the household affairs of the White family.

September second; another month opens on the scene and it occurred to me that if Old Bob should get out a brood they would make poor broilers for the Dogs of War so soon to be let loose, October first being only one month away. Old Bob burst upon the scene with his usual vigor, the same startling whirl of wings to which my nerves could never get reconciled, dropped in his old place and began to whine piteously. I peeped into the nest to find everything unchanged.

"Poor Bob," said I, "right sorry I am for you. All these weary weeks, in storm and sunshine, faithful to life's duty as you view it, and all for naught"; and here I fell to blaming myself for the disturbing interviews that might have wrought this disastrous end to all his care, and I went away feeling the deepest sympathy and regret for poor Bob.

My sympathy and regrets were all wasted. The morrow found the nest deserted, and only empty shells neatly cut in halves, as if severed by an expert with sharp tools, filled the nest.

A recent author on ornithological subjects arranges a list of birds into two classes, one, like the sparrows, that annually rear two broods in the season; and one, including Bob-white, never rearing but one. This little episode does not prove him incorrect and yet there are points circumstantially convincing to my mind that he was mistaken.

It was just one month after the events narrated above. October had come: the Nimrods had put on cap and boots and the fusillade had already begun, but not yet near. I was reading quietly in my chair when I was startled by the heavy report of a gun, fired evidently only a short distance away from my yard but the scene invisible by intervening foliage. A little later I saw go marching proudly by, a boy with a big gun in one hand and a big male Bob-white in the other, great triumph sparkling in his eyes. He probably feasted that night. Menu — Quail on toast, seasoned with a mayonnaise of glory.

OCCURRENCE OF THE EMPEROR GOOSE IN HAWAII.

BY H. W. HENSHAW.

THE present season of 1902-03 bids fair to be a notable one as regards the occurrence of North American birds in the Hawaiian Islands. About the middle of October there occurred a heavy northeast trade storm, and, coincident with it, an unusually heavy flight of ducks and geese reached the island of Hawaii. Flocks of the former, consisting of scores, and even of hundreds, were reported from various points on the windward side. The ducks were mostly of two species, viz., the Pintail (*Dafila acuta*), and the Shoveller (*Spatula clypeata*). Although these two species are of annual occurrence upon all the islands of the group, where they winter, they have not been known in such abundance upon the island of Hawaii, not a favorite with ducks, for many years.

Among the flocks were doubtless not a few individuals of species

hitherto unknown to occur in the islands, but when killed these usually fell into the hands of natives and of sportsmen from whom next to nothing can be learned respecting the contents of their game bags save that among them were strange ducks.

The capture of three "Black-headed Ducks" has been reported from Puna and a photograph of two of these, taken after death by Mr. H. E. Wilson, is before me as I write. From this I identify them, with but little doubt, as the American Scaup Duck (*Aythya marila nearctica*). Neither of the Scaups has hitherto been reported from the group.

A fine specimen of the Red-breasted Merganser (*M. serrator*) fell into the hands of Mr. C. M. Walton of Pahala, Kau, by whom it was preserved. This is the second recorded instance of the occurrence of this duck in the archipelago, though there is reason to believe that its presence here is not so very exceptional.

December 9, a specimen of *Larus glaucescens*, in superb juvenile winter plumage, was shot near Hilo by Mr. John Rinehart. This gull is known to occur in Hawaiian waters more often than any other North American gull, being piloted down here from San Francisco by both steamers and sailing vessels.

But the most interesting capture to be recorded is that of four Emperor Geese (*Philacte canagica*) at Kalapana, on the Puna coast, December 12, by Mr. H. E. Wilson, who fortunately possessed the interest and skill requisite to preserve all four. Two of the birds I have seen. They are in superb winter plumage, and are not only the first to be reported from the Hawaiian Islands but, if I mistake not, from any locality anything like so far south as latitude 19°. Several species of geese in small numbers have found their way to the islands from time to time during the fall migration, and during the present season small companies have been reported here and there along the coast. No doubt it was in company with other geese or with ducks that the present wanderers were enticed to southern latitudes.

Such casual occurrences as those above noted—but few in comparison with the many that are never chronicled—indicate the manner in which birds may be introduced to new and distant lands, and how the habit of annual winter migration to suitable regions is begun.

The habitual winter migration of ducks from the northwest coast to the islands, as well as that of the plover, has unquestionably been going on for many centuries, and had begun long before the islands possessed human inhabitants to profit by the visits of food birds. Yet no doubt the migration from America is very recent as compared to the length of time most of the land birds have been island residents.

At first thought it seems strange that, with the exception of the Short-eared Owl — now a long time resident and even yet a casual emigrant from the northwest — no west coast land birds have found their way hither, or at any rate have become established in the islands. The most probable explanation of the fact is that when blown off the coast, as the land birds must frequently be, and even when such strays join flocks of water birds on their way hither, as no doubt they often do, their strength gives out long before they reach port. Circumstances must needs be very exceptional when even so strong and hardy birds as woodpeckers can fly two thousand miles without stopping, if indeed they can perform the feat under any conceivable conditions. In the unlikely event of the birds reaching land after so prolonged and tremendous a flight there remains the probability of their dying from exhaustion.

Nevertheless, the ancestral stock from which have sprung the Meliphagidæ and the Muscicapidæ, which are probably of Australian derivation, and the Drepanididæ, which may have come from neotropical America, successfully solved what must have been practically the same problem of prolonged flight over the ocean, and why not such birds as the American Picidæ, Fringillidæ, and Corvidæ, to say nothing of other hardy and strong flying birds, not one of which has a representative in the island avifauna?

In referring to the migration of the west coast water birds to the archipelago I have elsewhere expressed the belief that, as time went on, the number of American species wintering in the islands was likely to increase, and that perhaps some might become permanent residents. I did not for the moment take into account the constantly increasing number of island sportsmen and gunners to whom everything that flies is game, and who are not only sure to prevent the possibility of additional species locating on the islands but who threaten the existence of several species long resident.

It is much to be regretted that the few species which are legitimate objects of pursuit by sportsmen, like the Hawaiian Goose, Hawaiian Duck, and the Plover and Turnstone, are becoming scarcer and scarcer every year. Yet it is at least to be said that these birds serve as food, and hence are not entirely wasted. No such excuse, however, can be urged in defence of the slaughter of such birds as the Hawaiian Stilt, Night Heron, Mud Hen (*Gallinula*), and Coot (*Fulica*). These birds, though occasionally eaten by the natives and Portuguese, are too 'gamy' for most palates, and are usually shot and thrown away, with the natural result that they have been quite exterminated in many localities and are becoming scarcer and scarcer in all districts.

PRESERVING EQUILIBRIUM BY THE USE OF ONE WING.

BY WILLIAM HUBBELL FISHER.

Plate VII.

I WAS at the Brown Palace Hotel, in the city of Denver, Colorado, from March 14, 1902, until the 21st day of the following May, and occupied a room on the seventh floor, about ninety feet above the pavement of the street. There I quite frequently fed the House Finches (*Carpodacus mexicanus frontalis*) of the neighborhood with bird seed spread upon my window sill. These birds became quite familiar. Often as many as twelve or fourteen of them were upon the sill at once. As the spring advanced, they came in pairs, and it frequently happened that a hungry pair having taken possession of the seed would drive off all the others until they had satisfied their appetites. In driving off the other birds, this pair would often meet with great opposition, and frequently severe combats occurred, often in mid air. I have pictures of the birds one darting down upon another as a hawk does upon his prey. At other times, the possessors of the locality would drive the intruders to the edge of the sill, and would often push off the intruder. Two of my instantaneous photographs reveal the

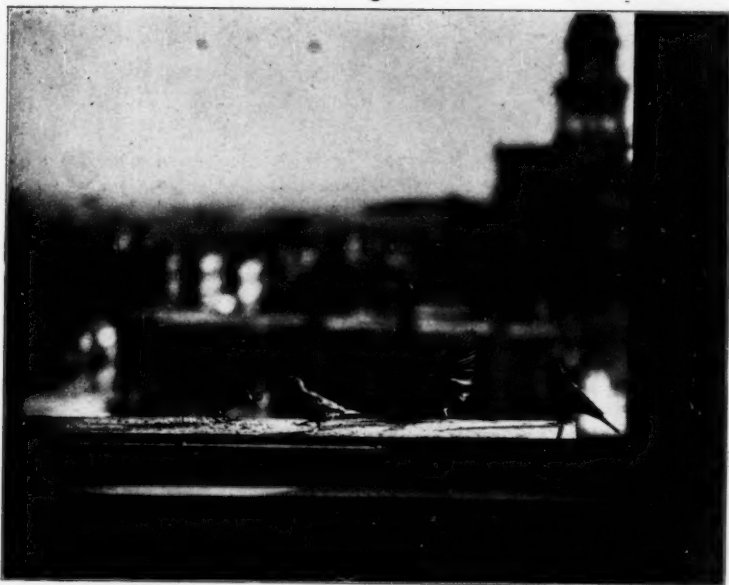
fact that when a bird — an intruder — had been thus driven to the edge of the sill and was being pushed off, he used one wing to keep himself from being forced into the air, the other wing not being in use.

On such occasions, the attacking bird would rush at the intruder and drive him almost off, and push him to the edge of the sill, and then as quick as a flash, in a nonchalant way, return and get ready to eat again the bird seed.

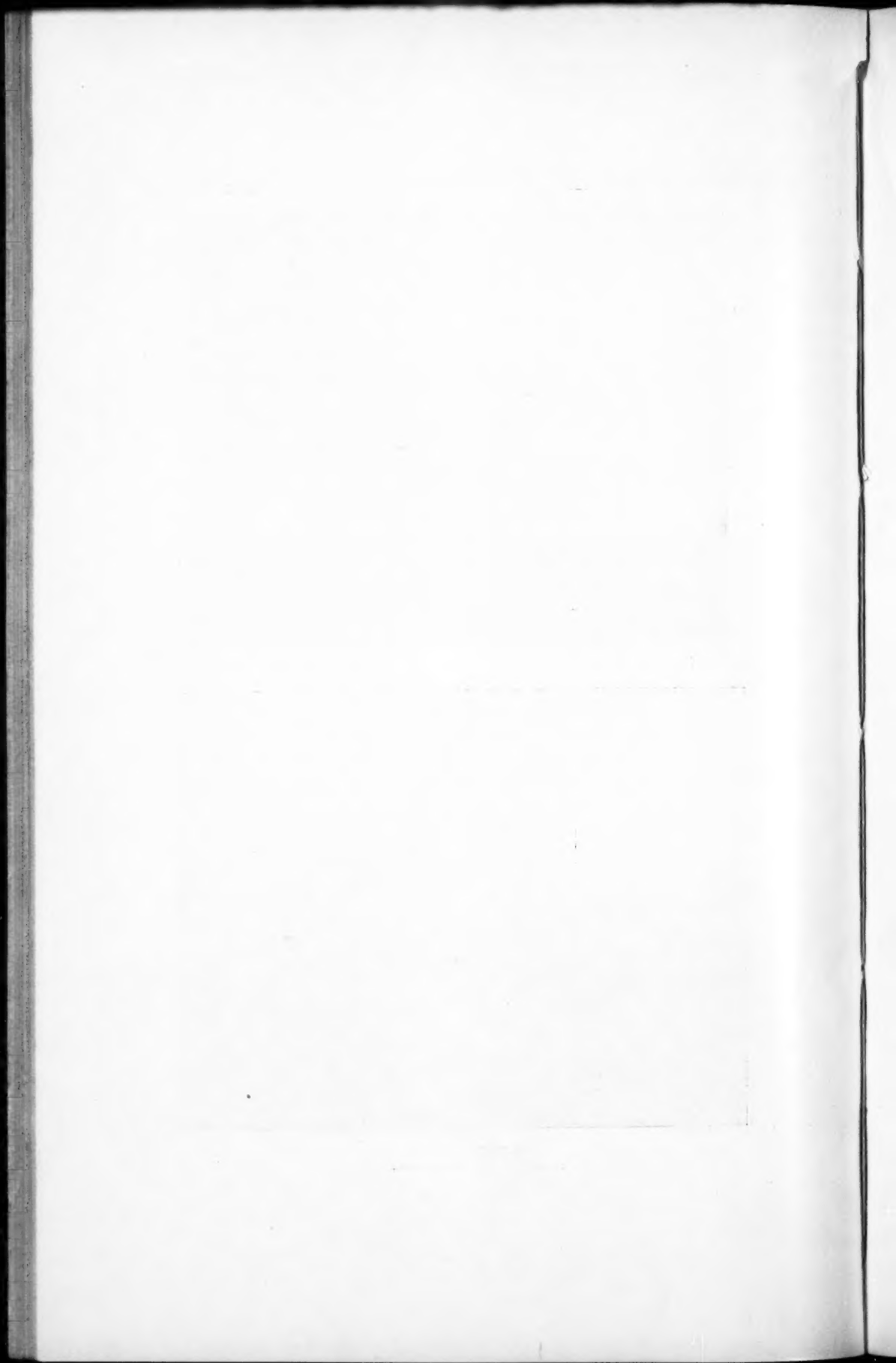
I have the pleasure of presenting a copy of one of the photographs thus taken, which illustrates such use of a single wing. The photograph was taken with a focal plane shutter. The movement of the wing must have been very rapid, as I did not observe it with the naked eye. The bird is evidently using the air to prevent its being forced off the sill somewhat as a man would use his arm against a post when being forced down a declivity. In illustration of this, I submit a photograph of two boys, one pushing the other down a declivity in Eden Park, Cincinnati.

I am aware that in the case of pigeons, where two males are fighting, the birds use only the wing next to their opponent. They strike their opponent over the back or head with the single wing with great force, the wing being returned with wonderful celerity to its place at the side, the other wing not being in use, but I have never before observed the use of a single wing to prevent the bird from being thrown into an abyss, as in the present instance.

I have another photograph of a House Finch, when driven to the sill, using the outer wing only for the same purpose. In this second instance, the outer wing is the left one.



PRESERVING EQUILIBRIUM.



BIRD MIGRATION AT SOME OF THE BAHAMA
LIGHTHOUSES.

BY J. LEWIS BONHOTE, M. A., F. Z. S. L., M. B. O. U.

THE birds dealt with in this paper from Cay Lobos were received in two consignments and cover the period of twelve months, from August, 1900, to May, 1901. Forty species are included, bringing the total number of species observed on the Cay to 54, which, when we consider that the Cay is but a bare rock of a few acres, standing well out at sea, is no inconsiderable number for observations extending over such a short period. It is to be regretted that Mr. Thompson has been removed to another station so that we are unlikely to receive further consignments from this locality; but Mr. Thompson has already sent a small collection from his new station, which is dealt with in this paper, and we may therefore hope to receive many further records from him.

Of the birds procured one of the most noticeable is *Aramus giganteus*, but from the direction of their flight, and the time of year (28th Jan.) it is probable that they were merely moving along the coast of Cuba, and not on any direct migration. *Porphyrio martinica* occurs as a solitary wanderer, most probably, considering the lateness of the hour (4 A. M.), from some northern region. *Helmintherus swainsoni*, *Dendræca cærulea*, *Sylvania mitrata*, *Pyranga rubra*, and *Empidonax acadicus* are recorded for the first time within the limits of the Bahamas.

Looking at the collection from a Cuban point of view we may notice the occurrence of *Dendræca celynae*, which has not yet, as far as we are aware, been observed in Cuba, but which, from the occurrence of this specimen, probably occasionally straggles there.

As regards the nights on which large movements were observed, the 20th Oct. and the 22nd Nov. were those on which most species were procured on the fall migration, and in both cases the wind was northeast. October seems to be the chief migratory month, as specimens were got on every night that the elements proved favourable.

On the spring migration the nights of the 15th and 21st March,

the 15th April and the 13th May were the richest in variety of species, and on three of these occasions the wind was southeast. On the 15th April, however, the night in which 17 different species were procured, the wind was north-northwest. Although we think it is well to draw attention to these facts, too much stress should not be laid on the direction of the wind, as the number of birds striking is probably far more dependent upon the state of the atmosphere (*i. e.*, rainy, misty, cloudy, etc.) than on the actual direction of the wind. In the cases under consideration it will be noticed that, with the exception of the 13th May, Mr. Thompson records rain or mist in every instance; it may be well also to notice that the birds invariably come up to the light against the wind and strike on the lee side of the lantern.

As regards species which were observed but of which no specimens were sent, we notice Swallows on the 20th and 31st August; Kingfisher (*Ceryle alcyon*) 21st August and 1st Sept.; Rice Birds (*Dolichonyx*) 1st and 8th Sept., and Mr. Thompson estimates that on the last mentioned date the flock consisted of at least 200 individuals. A Barn Owl also was seen on the 1st September. Flocks of small birds visited the island on the 4th and 9th Sept., 28th Oct. and 27th November.

On the 20th April a large migration took place, the greater bulk of which were small Passeres, but it also included Fighters (*Tyrannus*) and Rice Birds (*Dolichonyx*). The last spring movement recorded is on May 10, when a small flock of Passeres rested on the Cay.

There remains only for me to give my best thanks to Messrs. Thompson and Solomon for all the trouble they have taken and to hope that they may send us many more equally interesting consignments.

CAY LOBOS LIGHT.

Turdus mustelinus.

No. 8. a. 15th April, 1901.

Turdus fuscescens.

No. 15. a. 15th April, 1901.

Mniotilta varia.

No. 2. a, b. 29th Oct., 1900.

No. 4. c-f. 21st March, 1901.

- No. 5. *g-k*. 23rd March, 1901.
No. 3. *i*. 3rd April, 1901.
Nos. 8 and 15. *h-m*. 15th April, 1901.

Parula americana.

- No. 2. *a-e*. 20th Oct., 1900.
No. 6. *f*. 29th Oct., 1900.
No. 9. *g, h*. 22nd Nov., 1900.
No. 4. *i-l*. 21st March, 1901.
No. 5. *m-o*. One male, two females, 23rd March, 1901.
No. 6. *p*. One female, 25th March, 1901.
No. 4. *q*. 11th April, 1901.
No. 6. *r*. One male, 15th April, 1901.
No. 11. *s-u*. Two males, one female, 13th May, 1901.
No. 12. *v*. One female, 14th May, 1901.

Helmintherus swainsoni.

- No. 5. *a, b*. 23rd March, 1901. No. 6. *c*. 26th March, 1901.
This is the first record of this species within the Bahama area.

Dendroeca coronata.

- No. 9. *a*. 22nd Nov., 1900. Struck at midnight.
No. 2. *b*. 14th Feb., 1901. No. 5. *d, e*. 23rd, March, 1901.
No. 4. *c*. 21st March, 1901.

Dendroeca palmarum.

- No. 6. *a*. 29th Oct., 1900. No. 5. *g*. 23rd March, 1901.
No. 7. *b-d*. 30th Oct., 1900. No. 8. *h*. 15th April, 1901.
No. 9. *e*. 22nd Nov., 1900.

Dendroeca cærulea.

- No. 6. *a, b*. 26th April, 1901. Hitherto only recorded from Cuba and Grand Cayman in the West Indies.

Dendroeca discolor.

- No. 5. *a-c*. Males, 23rd March, 1901.
No. 8. *d-g*. Four males, 15th April, 1901.
No. 11. *h*. One male, 13th May, 1901.

Dendroeca tigrina.

- No. 2. *a*. One male, 20th Oct., 1900.
No. 9. *b*. 22nd Nov., 1900.
No. 2. *c-e*. Three females, 14th Feb., 1901.
No. 8. *f, g*. One male, one female, 15th April, 1901.
No. 5. *h*. One male, 21st April, 1901.

Dendroeca caerulea.

- No. 2. *a*. One male, 20th Oct., 1900.
 No. 5. *b*. One male picked up on the cay, 28th Oct., 1900.
 No. 5. *c-e*. One male, two females, 23rd March, 1901.
 No. 7. *f*. One male, 14th April, 1901.
 No. 8. *g, h*. Males, 15 April, 1901.
 No. 9. *i*. Male, 19th April, 1901.
 No. 12. *k*. Female, 14th May, 1901.

Dendroeca dominica.

- No. 4. *a-d*. 21st March, 1901. No. 5. *e-g*. 23rd March, 1901.

Dendroeca striata.

- No. 2. *a*. Female, 20th Oct., 1900.
 No. 15. *b, c*. Males, 15th April, 1901.
 No. 10. *d-f*. 10th May, 1901.
 No. 11. *g, h*. One male, one female, 13 May, 1901.

Seiurus aurocapillus.

- No. 9. *a*. 22nd Nov., 1900. No. 11. *e*. 13th May, 1901.
 No. 15. *b-d*. 15th April, 1901.

Seiurus motacilla.

- No. 6. *a*. 26th March, 1901. Struck the Light at 3 A. M.

Seiurus noveboracensis.

- No. 7. *a*. 30th Oct., 1900. No. 5. *b*. 11th April, 1901.

Oporonis agilis.

No. 10. *a*. 9th May, 1901. Struck at 7.30 A. M. There are only two previous records of this species in the Bahamas; the first from Cay Sal, where Mr. Winch met with it on migration about the 14th May, 1891 (Auk, Vol. VIII, p. 352), and the second obtained by myself at Nassau during the autumn migration on the 12th Oct., 1898.

Geothlypis trichas.

- No. 2. *a*. One male, 29th Oct., 1900. Struck at midnight.
 No. 6. *b*. Male, 29th Oct., 1900.

Sylvania mitrata.

No. 6. *a.* 15th April, 1901.

Setophaga ruticilla.

No. 2. *a-c.* One male, two females, 20th Oct., 1900.

No. 7. *d.* Male, 14th April, 1901.

No. 11. *e.* 13th May, 1901. Struck at 2 A. M.

Vireo flavifrons.

No. 5. *a.* 23rd March, 1901. Struck at 11.20 P. M. This species is said by Cory (Cat. B. W. Indies, p. 116, 1892) to have occurred on New Providence but I have not been able to find a copy of the reference. (A. H. Jennings, John Hopkins Univ. Cir., Vol. VII, p. 39). I have, however, recently obtained a single specimen myself on Andros.

Vireo crassirostris.

No. 5. *a.* 23rd March, 1901.

Pyranga rubra (Linn.).

No. 8. *a.* Female, 15th April, 1901. A certain amount of confusion seems to exist with regard to the synonymy of this species, and a mistake occurred in my previous paper on the birds of New Providence (Ibis, 1899, p. 518). In that paper a bird is recorded in the introduction as *P. aestiva* and occurs in the text as *P. rubra*. That specimen is the *P. aestiva* (Gmel.) of the 'British Museum Catalogue,' which is the same as the *P. rubra* of Cory, 'Birds of the West Indies,' p. 85 and 'Cat. W. Ind. Birds,' p. 114. The specimen under consideration, however, is the *P. rubra* (Linn.) of the B. M. Cat., recorded by Cory as *P. erythromelas* (Vieill.) in his 'Birds of the West Indies,' p. 86. This is therefore the first record of this species within the Bahama area.

Cyanospiza cyanea.

No. 8. *a.* 15th April, 1901.

Tyrannus griseus.

No. 9. *a.* 24th April, 1901. Six specimens of 'Fighters,' presumably of this species, inhabited the Cay for three days, March 24th-26th.

Empidonax acadicus [= *virescens*].

No. 8. *a.* 15th April, 1901. The first record from the Bahamas.

Dorichia evelynæ.

No. 8. *a.* 15th April, 1901. The occurrence of this bird so near the Cuban coast points to its occasional occurrence on that island.

Spyrapicus varius.

No. 4. *a.* 21st March, 1901. This specimen must have been a very bright male; the white tips and the outermost spots of the primaries are tinged with pinkish and the white margins of the outer tail-feathers are of a dull pinkish brown.

Columba leucocephala.

No. 10. *a.* 21st Dec., 1900. Struck the tower at 12.20 A. M.

Charadrius fulvus.

No. 4. *a.* 25th Oct., 1900.

Streptilas interpres.

No. 8. *a.* 14th Nov., 1900. Shot on the Cay.

Tringoides macularius.

No. 10. *a.* 25th April, 1901.

Ardea virescens.

No. 2. *a, b.* 20th Feb., 1901.

No. 8. *c.* 22nd April, 1901. "About 30 arrived on the night of the 20th and all left the following day with the exception of one, which was shot on the 22nd."—T. R. T.

I have compared these specimens with the individual I obtained at Nassau in 1898 and I find that that specimen should be referred to *A. bahamensis* of Brewster and not to this species as erroneously recorded (Ibis, 1899, p. 319).

Nyctiardea violacea.

No. 3. *a.* 23rd Oct., 1900. Immature.

No. 4. *b.* 21st March, 1901. A fine adult.

Aramus giganteus.

No. 1. *a-c.* 28th Jan., 1901. Nine examples were seen in all; they came from the N. W. and left going S. E. This is the first record within the Bahama area.

Porphyrio martinica.

No. 1. *a.* 19th Oct., 1900. Struck at 4 A. M.

Porzana carolina.

No. 1. *a.* 19th Oct., 1900.

Sterna cantiaea [*acuflava*]. BLACKSHANK.

No. 12. *a-c.* 17th Jan., 1901.

No. 1. *d.* 23rd Jan., 1901. This species and *S. dougalli* sleep on the Cay whenever a strong breeze is blowing.

Sterna dougalli. REDSHANK.

No. 11. *a-c.* 26th Dec., 1900. Shot on the Cay.

No. 12. *d.* 14th May, 1901. Struck at 1.15 A. M.

Sterna antillarum.

Mr. Thompson has sent me some eggs of this species laid on the Cay.

Sterna fuliginosa.

No. 5. *a.* 23rd March, 1901. I also received eggs of this species from a Cay about thirty miles from the station.

Extracts from Schedules.

| Date | Name of Bird | Weather | Wind | Side of light struck |
|----------------|--|-------------|------------|----------------------|
| 19 Oct., 1900. | <i>P. martinica</i> , <i>P. carolina</i> | Fog & rain | S. W. 1 | |
| 20 " " | <i>M. varia</i> , <i>P. americana</i> , <i>D. tigrina</i> , <i>D. cærulescens</i> , <i>D. striata</i> , <i>G. trichas</i> . <i>S. ruticilla</i> | Rainy | N. N. E. 2 | — |
| 23 " " | <i>N. violacea</i> | Clear | E. 6 | — |
| 25 " " | <i>C. fulvus</i> | Rainy | N. E. 6 | — |
| 28 " " | <i>D. cærulescens</i> | " | " | — |
| 29 " " | <i>P. americana</i> , <i>D. palmarum</i> , <i>G. trichas</i> | " | " | — |
| 30 " " | <i>D. palmarum</i> , <i>S. noveboracensis</i> | — | — | — |
| 14 Nov., " | <i>S. interpres</i> | Misty | N. E. 5 | S. |
| 22 " " | <i>P. americana</i> , <i>D. coronata</i> , <i>D. palmarum</i> , <i>D. tigrina</i> , <i>S. aurocapillus</i> | Misty | N. E. | S. |
| 21 Dec., " | <i>C. leucocephala</i> | Rain & fog | S. W. 3 | S. |
| 28 Jan., 1901. | <i>A. giganteus</i> | — | N. W. 4 | — |
| 14 Feb., " | <i>D. coronata</i> , <i>D. tigrina</i> | Rain & mist | S. W. 1 | N. W. |
| 20 " " | <i>A. virescens</i> | — | N. W. 4 | — |
| 21 Mar., " | <i>M. varia</i> , <i>P. americana</i> , <i>D. coronata</i> , <i>D. dominica</i> , <i>S. varius</i> , <i>N. violacea</i> | Rain | S. E. 4 | N. W. |
| 23 " " | <i>M. americana</i> , <i>H. swainsoni</i> , <i>D. coronata</i> , <i>D. palmarum</i> , <i>D. discolor</i> , <i>D. cærulescens</i> , <i>D. dominica</i> , <i>V. flavifrons</i> , <i>V. crassirostris</i> , <i>S. fuliginosa</i> | Foggy | S. E. 2 | S. & W. |
| 25 " " | <i>P. americana</i> , <i>H. swainsoni</i> , <i>S. motacilla</i> | — | S. E. 2 | S. W. |
| 3 Apr., " | <i>M. varia</i> | — | N. W. 3 | — |
| 11 " " | <i>P. americana</i> | — | N. W. 3 | — |
| 14 " " | <i>D. cærulescens</i> , <i>S. ruticilla</i> | — | S. 3 | — |
| 15 " " | <i>T. mustelinus</i> , <i>T. fuscens</i> , <i>M. varia</i> , <i>P. americana</i> , <i>D. palmarum</i> , <i>D. cærulea</i> , <i>D. striata</i> , <i>D. discolor</i> , <i>D. tigrina</i> , <i>D. cærulescens</i> , <i>S. aurocapillus</i> , <i>S. noveboracensis</i> , <i>S. mitrata</i> , <i>P. rubra</i> , <i>C. cyanea</i> , <i>E. acadicus</i> , <i>D. evelyna</i> | Misty | N. N. W. 3 | S. E. |
| 19 " " | <i>D. cærulescens</i> | Misty | S. E. 5 | N. W. |
| 21 " " | <i>D. tigrina</i> | — | N. N. W. 4 | — |
| 23 " " | <i>A. virescens</i> | — | — | — |
| 24 " " | <i>T. griseus</i> | — | — | — |
| 9 May, " | <i>D. striata</i> , <i>O. agilis</i> | Cloudy | S. E. 1 | — |
| 13 " " | <i>P. americana</i> , <i>D. discolor</i> , <i>D. striata</i> , <i>S. aurocapillus</i> , <i>S. ruticilla</i> | Clear | S. E. 1 | — |
| 14 " " | <i>P. americana</i> , <i>D. cærulescens</i> | — | — | — |

THE BIRD ROCK CONSIGNMENT.

Mr. Thompson having been transferred to the above light last autumn I have much pleasure in tabulating below the results of the first consignment from his new station.

Bird Rock Light, situated in Lat. $22^{\circ} 50'$ N., Long. $74^{\circ} 15'$ W., marks the northeastern limit of the Crooked Island Passage and is on a small cay lying just off Crooked Island. It is, of course, too early to speak definitely as yet, but, as might be expected, it does not appear to lie on any great migration route, and the few specimens captured during the fall of last year are solitary stragglers, with the exception of a flock of *Coccyzus americanus* which struck the light in some numbers on the night of the 15th October.

Margarops fuscatus.

No. 5. 14th Nov., 1901. One specimen struck at 9.50 P. M.

Dendroeca striata.

No. 4. Several specimens, adults and young, 16th Oct.

Vireo calidris.

No. 1. 14th Sept. Struck at 5.15 P. M.

Coccyzus americanus.

No. 3. 12 specimens, 15th Oct.

Zenaidura macrura.

No. 2. 29th Nov. Shot on the cay.

Chamæpelia passerina.

No. 1. One specimen, 18th Sept.

Porzana carolina.

No. 3. One specimen, 15th Oct., 1901.

| Date | Name of Bird | Weather | Wind | Side of light struck |
|----------------|-----------------------------------|-------------|------------|----------------------|
| 8 Sept., 1901. | <i>C. passerina</i> | Misty | S. W. 2 | N. E. |
| 14 " " | <i>V. calidris</i> | " | S. E. 3 | — |
| 15 Oct., " | <i>C. americanus, P. carolina</i> | Rain & mist | S. 5 | N. |
| 16 " " | <i>D. striata</i> | Misty | W. 5 | E. |
| 14 Nov., " | <i>M. fuscatus</i> | Clear | N. E. 2 | N. W. |
| 29 " " | <i>Z. macrura</i> | Mist & rain | N. by E. 5 | — |

THE CAY SAL CONSIGNMENTS.

From the Cay Sal Light I have received, through the kindness of Mr. J. S. Solomon, two small consignments, the one covering the spring migration of 1901 and the other the autumn and winter movements of 1901-02.

The lighthouse of Cay Sal is situated on the westernmost point of the Cay Sal Bank in Lat. $23^{\circ} 55' N.$, Long. $80^{\circ} 25' W.$, and lies nearly midway between Florida and the north coast of Cuba. During the year covered by the schedules no great movements appear to have been observed, most of the birds arriving singly or in twos and threes; the greatest rush recorded took place on the 13th of March and was made up of four or five small species of Passeres, which commenced striking about 2 A. M. and continued until dawn. Many of these birds remained on the cay three days before continuing their journey.

The only other large movement took place, curiously enough, on the 15th December, a time when, as a rule, but little migration is to be looked for; as in the previous rush the species represented were much the same; they commenced to strike at 10 P. M. but ceased about 5 A. M. and very few were seen on the cay the next day.

The other point of note is the occurrence on two occasions of the Purple Gallinule (*P. martinica*) which is probably therefore a regular migrant to the Bank.

Mniotilta varia.

No. 1. *a, b.* 13th March, 1901.

Parula americana.

No. 1. *a-h.* Six males, two females, 13th March, 1901.

Helminthophila bachmani.

No. 1. *a.* 13th March, 1901.

Dendroeca coronata.

No. 1. *a.* 13th March, 1901.

No. 1. *b-i.* 15th Dec., 1901.

Dendroeca palmarum.

No. 1. *a-f.* 13th March, 1901.

No. 1. *g, h.* 15th Dec., 1901.

Geothlypis trichas.

No. 1. *a-f.* Four males, two females, 13th March, 1901.

No. 1. *g.* One female, 15th Dec., 1901.

Ammodramus savannarum.

No. 1. *a-h.* 15th Dec., 1901.

Dolichonyx oryzivorus.

No. 3. *a-c.* Three males in full plumage, 28th March, 1901.

Coccyzus americanus. RAIN CROW.

No. 2. *a.* 17th March, 1901. This is the same species as that previously recorded (Auk, 1901, p. 148) as *C. minor* from Cay Lobos but not the same as *C. minor maynardi* from Nassau.

Porphyrio martinica.

No. 5. *a.* 24th April, 1901.

No. 2. *b.* 9th Feb., 1902. Struck the lantern at 11.30 P. M.

Sterna fuliginosa. EGG BIRD.

No. 4. *a.* 18th April, 1901. "These birds breed on the Cay every year, when they gather by thousands from May to August."—J. S. S.

Extracts from Schedules.

| Date | Name of Bird | Weather | Wind | Side of light struck |
|----------------|--|------------------|------------|----------------------|
| 13 Mar., 1901. | <i>M. varia</i> , <i>P. americana</i> , <i>H. bachmani</i> , <i>D. coronata</i> , <i>D. palmarum</i> , <i>G. trichas</i> | Cloudy | E. S. E. 5 | N. & N. E. |
| 17 " " | <i>C. americanus</i> | Cloudy | N. E. 5 | — |
| 28 " " | <i>D. oryzivorus</i> | Cloudy | S. 5 | — |
| 18 Apr., " | <i>S. fuliginosa</i> | Cloudy | E. S. E. 6 | — |
| 24 " " | <i>P. martinica</i> | Cloudy | N. W. 4 | — |
| 15 Dec., " | <i>D. coronata</i> , <i>D. palmarum</i> , <i>G. trichas</i> , <i>A. savannarum</i> | Cloudy | N. N. W. 5 | S. E. |
| 9 Feb., 1902. | <i>P. martinica</i> | Cloudy & squally | N. E. 6 | S. |

A LIST OF THE LAND BIRDS OF LAKE VALLEY,
CENTRAL SIERRA NEVADA MOUNTAINS,
CALIFORNIA.

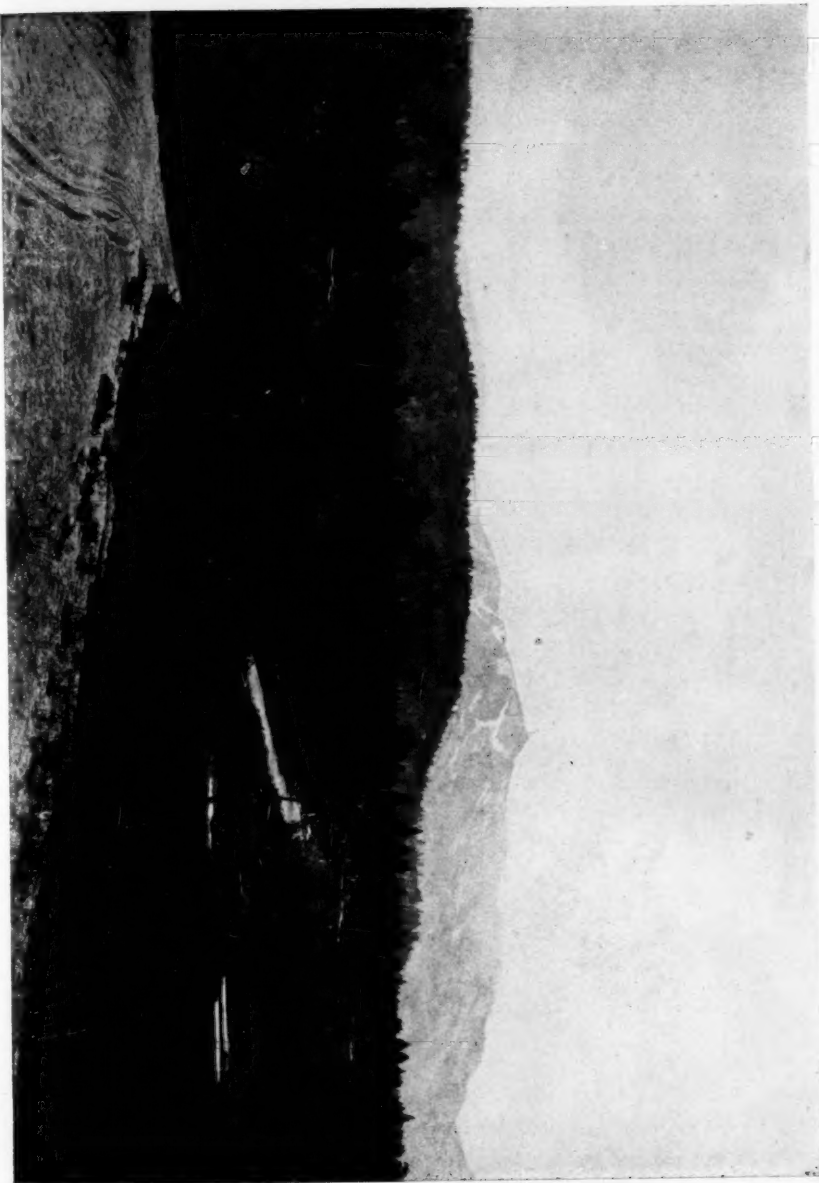
BY MILTON S. RAY.

Plates VIII and IX.

THE following notes are the result of two seasons I have spent in Lake Valley, — from June 4 to 20 in 1901, and from June 16 to July 3 in 1902. My brother William R. Ray has accompanied me, and in 1902 Olof Heinemann joined us. I had the pleasure of meeting Mr. Loren E. Taylor in 1901 and Messrs. Chester Barlow, Henry R. Taylor, W. W. Price, and F. M. Willard in 1902, at various points in the region, all of whom are well known workers in this locality. The observations of Messrs. Wilfred H. Osgood, R. H. Beck, and Forrest Hanford have also added a number of species to the list. Liberal extracts have been taken from the 'Land Birds of the Placerville-Lake Tahoe Stage Road' by Chester Barlow (Condor, Vol. III, No. 6).

A very small portion of Lake Valley lies in Nevada, as the State line turns a little north of here and runs southeast across the mountains. The valley is about 15 miles long and 8 miles wide. On the north it is bounded by Lake Tahoe, while on all other sides it is surrounded by rugged, snow-capped mountain ranges. The principal peaks are: Tallac on the west, rising to 9785 feet; further west and to the south snowy Pyramid attains 10,020 and Crystal 10,015 feet, while on the eastern range Job's and Freel's Peaks have an altitude of 10,637 and 10,900 feet respectively. Lakes are numerous, there being a score of them between Mount Tallac and Pyramid Peak at altitudes varying from 6400 to 8500 feet. Star Lake, the only one on the east, is one of the highest in the world, the altitude being about 9000 feet. It usually remains covered with a thick coat of ice until the end of June, and is a great resort for Clarke Nutcrackers and other birds of the Hudsonian Zone.

The altitude of Lake Valley is a little above that of Lake Tahoe, which is 6220 feet, and for the most part the valley is level,



Photographed by W. K. Ray.
LOOKING WEST FROM ROWLANDS MEADOWS, SHOWING TRANSITION, CANADIAN, HUDSONIAN, AND ALPINE ZONES.



though hilly adjacent to the mountain sides. It presents six distinct types of country.

(1.) The major portion is sandy, more or less thickly wooded with pine, tamarack, sagebrush and the broad-leaved wild sunflower. The majority of the timber on the eastern half is second growth.

(2.) There are also large areas of fertile grassy meadows along the numerous streams whose banks are fringed with willow, aspen and other trees.

(3.) At the mouth of the Little Truckee River, called Rowlands, is a marsh extending about three miles along the lake shore and from one to three miles inland. The above three types of country lie in the Transition Zone.

(4.) Portions of the hillsides are very rocky, sparsely wooded, but thickly covered with the thorny buck brush, manzanita, and wild beach. This district lies in the Canadian Zone.

(5.) On the mountain sides are dense forests of massive firs, balsam, pine, and tamarack. Picturesque lakes, rushing torrents, and foaming waterfalls characterize this portion of the country, the lower part of which belongs to the Canadian Zone, and above 8000 feet to the Hudsonian Zone.

(6.) The last type is the barren rocky areas above the timber line on the various mountain peaks, or the Alpine Zone.

The principal points of the region are :

| | Altitude. |
|--|-----------|
| Lakeside (State Line) | 6220 |
| Bijou (P. O.) 2 miles west of Lakeside, on lake shore . . | 6220 |
| Rowlands, 4 " " " " " " " " . . | 6220 |
| Tallac (P. O.) 7 " " " " " " " " . . | 6220 |
| Glen Alpine, 14 " " " " a rocky gorge . . | 6700 |
| Sierra House, 2½ miles southeast of Lakeside, in Lake Valley | 6300 |
| Meyer's Station, 7 " south " " " " " " . . | 6400 |
| Summit, 12 " southwest " " on the ridge | 7600 |
| Phillip's Station 14 " " " " " " " " . . | 6900 |

The weather in the valley is erratic. In summer magnificent thunderstorms, followed by a downpour of rain, hail, and occasionally light snow, are common while in a few hours the sun will be shining and the sky clear. The climate in general, however, is cold in the morning and evening and rather warm at midday.

Bird life in general is varied and numerous, in striking contrast

to places west of the summit, like Echo, Slippery Ford, and River-ton. This is no doubt due to the fact that species of many zones occur here, owing to the diversified character of the country. The breeding season is very early for the altitude of 6220 feet, it being about the same as Slippery Ford, west of the summit, at 4000 feet elevation.

It is a noticeable fact that even 500 or 1000 feet make a difference in nesting dates, allowing for the usual variation. For instance, at Bijou on Lake Tahoe, on June 7, eggs of *Junco hyemalis thurberi* were well along in incubation, and by June 15 most nests contained young. At Phillip's Station eggs slightly incubated were found June 16, and on July 3, 4 and 5 we observed young birds flying about at Wright's Lake and various other places on this mountain plateau; while at 9000 feet, on July 6, while ascending Pyramid Peak, two nests of eggs were found in which incubation had just commenced. The lateness of the season also delays nesting, but only of certain species, it having little effect on birds breeding in protected situations, like woodpeckers, bluebirds and chickadees.

LIST OF SPECIES.¹

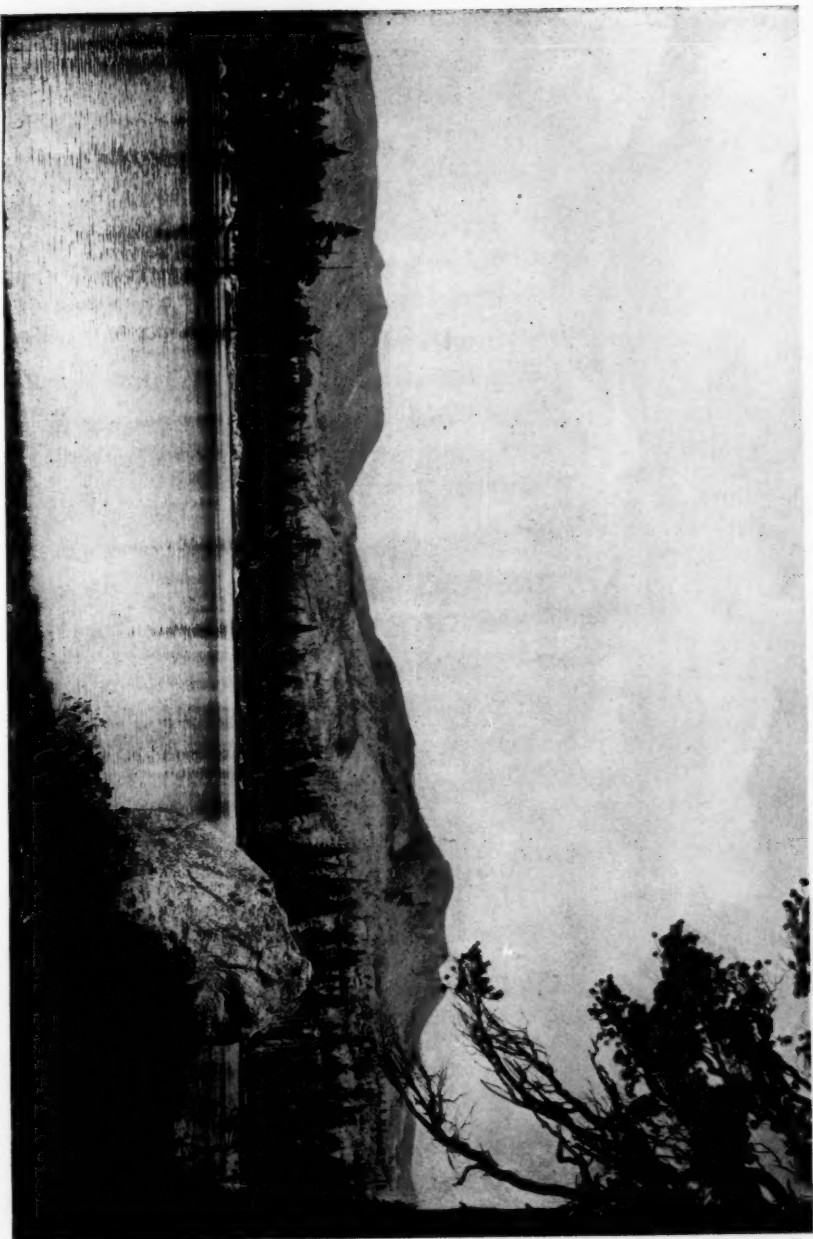
17. *Oreortyx pictus plumiferus*. PAINTED PARTRIDGE.—Rather scarce on the floor of the valley although a number were seen near Tallac in June, 1901. It is common on the mountain sides, especially on the road to Star Lake.

18. *Dendragapus obscurus fuliginosus*. SOOTY GROUSE.—This bird is more often heard than seen. It is not uncommon on the ranges surrounding Lake Valley. On July 4, 1902, on the road to Pyramid Peak, a parent with young about the size of a Valley Quail, was flushed from the brush along the road. In her solicitude for the young she could have been hit with a driving whip. Mr. Price states they remain in these high altitudes all the year, and also records a set of seven eggs, well advanced in incubation, found at Glen Alpine, June 7, 1900.

19. *Zenaidura macroura*. MOURNING DOVE.—Common, especially about Bijou. I am inclined to think these birds do not breed here until late in July, as notwithstanding their abundance I found no nests.

¹ Asterisk signifies skin taken.

Sixteen water birds have been listed, so this list starts with No. 17.



Photographed by O. Heinemann.

WRIGHT'S LAKE, NORTHWEST OF PYRAMID PEAK.



20. *Cathartes aura*. TURKEY VULTURE.—A common species in the valley; a number were seen almost every day.
21. *Accipiter velox rufilatus*. WESTERN SHARP-SHINNED HAWK.—Not uncommon about Lake Valley; in fact all the birds of prey were far more numerous here than at any point on the trip.
22. *Accipiter cooperi*. COOPER HAWK.—Observed about Glen Alpine Springs by Mr. W. W. Price, and also at the base of Pyramid Peak, where, he states, they no doubt breed.
23. *Accipiter atricapillus striatulus*. WESTERN GOSHAWK.—Seen near Pyramid Peak in June and July, 1897, by Mr. Price where, he states, they undoubtedly breed.
24. *Buteo borealis calurus*. WESTERN RED-TAILED HAWK.—The most common raptore in the region. I noticed it every day on various rambles. A field glass is very handy for identifying these birds when at a great height.
25. *Aquila chrysaetos*. GOLDEN EAGLE.—Observed about Glen Alpine by Mr. Price, and about Pyramid Peak and Mt. Tallac, where it nests on rocky ledges.
26. *Falco sparverius deserticolus*.* DESERT SPARROW HAWK.—This bird is rather scarce in Lake Valley. During the first week of June, 1901, one was shot on the Bijou camp grounds. Seen about Mt. Tallac and at Pyramid Peak by Mr. Price, where he found a nest at 9000 feet on July 5, 1897.
27. *Nyctala acadica*. SAW-WHET OWL.—A single specimen, shot by Mr. A. S. Bunnell at Glen Alpine in July, 1898.
28. *Bubo virginianus saturatus*. DUSKY HORNED OWL.—We saw a Horned Owl, probably this variety, near Forni's, at the base of Pyramid Peak, on July 5, 1902.
29. *Glaucidium gnoma*. PIGMY OWL.—Mr. Price shot three at Glen Alpine on August 10, 1900; one an adult female, the others young of the year.
30. *Ceryle alcyon*. BELTED KINGFISHER.—Fairly common along the lake shore between Bijou and Rowlands, and it probably nests in the sandy bank which forms an unbroken line between these two points.
31. *Dryobates villosus hyloscopus*. CABANIS WOODPECKER.—Mr. L. E. Taylor secured two specimens at Fallen Leaf Lake on Sept. 2, 1901. I also noticed this bird occasionally about Rowlands.
32. *Xenopicus albolarvatus*. WHITE-HEADED WOODPECKER.—This woodpecker and *Colaptes cafer collaris* are the only species of this family which can be really called common in Lake Valley. The male is an attractive bird, with his glossy black coat and white head. They are especially fond of the grub of a large beetle found in newly-dead tamaracks, and as these are also the principal bait used for catching the famous Tahoe trout, the experienced fisherman looks for a trunk this bird has recently tapped. The bird breeds commonly in Lake Valley, nesting in dead pines and tamaracks from 5 to 25 feet up. By June 1 most nests contained young in various stages.

33. *Picoides tenuirostris*. SIERRA THREE-TOED WOODPECKER. — Mr. W. W. Price records two young shot at the head of Glen Alpine gorge July, 1898, and a pair near Pyramid Peak, August, 1896.

34. *Sphyrapicus thyroideus*. WILLIAMSON SAPSUCKER. — Noted as nesting at the base of Pyramid Peak by Mr. Chester Barlow. Mr. L. E. Taylor collected an immature female at Cascade Lake on August 8.

35. *Ceophloeus pileatus abieticola*. NORTHERN PILEATED WOODPECKER. — Mr. Taylor collected a male at Gilmore Springs, near Tallac, Sept. 2, 1901.

36. *Melanerpes torquatus*. LEWIS WOODPECKER. — Mr. R. H. Beck records it as common and breeding about Bijou in the summer of 1896. Personally I have not observed it in the region.

37. *Colaptes cafer collaris*. RED-SHAFTED FLICKER. — A common species, nesting at various heights in dead pines in Lake Valley and on the mountain sides. All nests examined during June, 1901 and 1902, contained young.

38. *Phalacroptilus nuttallii californicus*. DUSKY POORWILL. — Mr. Taylor collected a female at Meyer's Station on Sept. 2, 1901.

39. *Chordeiles virginianus*. NIGHTHAWK. — The Nighthawk is extremely common, and only on cloudy days when they fly low is one able to realize the abundance of these birds. I noticed at least 100 in one band on the road to Star Lake, darting back and forth in what was evidently a good feeding ground. A single set of two eggs is recorded by Mr. Price as being found on a bare rock near Suzy Lake late in July, but where the thousands of Nighthawks breed is still a mystery. I have never found a nest nor an indication of one, and probably the reason is the birds do not start to breed until the end of July or later.

40. *Calypte anna*. ANNA HUMMINGBIRD. — Mr. Price records a female, evidently a straggler, as being shot near Pyramid Peak, July, 1896.

41. *Selasphorus platycercus*. BROAD-TAILED HUMMINGBIRD. — Recorded as a rather rare summer visitant at Lake Tahoe in Grinnell's 'Check-list of California Birds.'

42. *Selasphorus rufus*. RUFOUS HUMMINGBIRD. — Mr. W. W. Price notes this bird as common and nesting about Glen Alpine. I also saw it occasionally at Bijou.

43. *Contopus borealis*. OLIVE-SIDED FLYCATCHER. — This flycatcher is not abundant in Lake Valley; I noticed it occasionally at Rowlands, but more often on the mountain sides among the heavy timber.

44. *Contopus richardsoni*. WESTERN WOOD PEWEE. — A very common bird throughout the region. I found a freshly built nest on June 7, 1901, near Lake Tahoe at 30 feet up in a dead tree near a small stream; another at Bijou, on June 20, 1901, placed on a branch of a small tamarack, 15 feet up, with three fresh eggs. On June 18, 1902, near Bijou, a nest was found saddled on a tamarack branch, 12 feet up, and also contained three fresh eggs; and another nearby was situated in a tamarack 40 feet up with the same complement. The last two nests, now before me, are

similar in construction and material, being externally composed of grasses, weed fibres, bits of bark and string, and lined with horse-hair and various bird feathers. In one the brilliant yellow feathers of the Western Tanager are conspicuous. This nest measures 4 inches across, the cavity being 2 by 1½ inches deep. The most interesting nest of this bird I ever saw was at Echo on June 15, 1902. It was on a small dead branch hanging from the main trunk of a giant pine, fully 75 feet up. The nest and bird were so small at this great height that they could be scarcely seen, and my friend Olof Heinemann, who was with me, gazed for a number of minutes before he could perceive it. The female was observed whirling round and round in the almost completed nest and presently flew off and returned with a bit of material which was carefully placed. Few can realize the time and patience required to build these, one of the most beautiful of all forest bird homes.

45. *Empidonax traillii*. TRAILL FLYCATCHER.—This bird is rather scarce; a single nest was found July 1, 1902, made of hemp fibres and grasses and laced to an upright fork of a willow beside a small stream near the Sierra House. It contained a single fresh egg, of the usual pale buff blotched with reddish brown. This is the highest altitude at which I have ever found this bird. At Buck's Ranch, Plumas County, elevation 5000 feet, I found a nest, which I collected with the parent, June 29, 1901, in a willow, 3 feet up, near a small brook. It contained four eggs in which incubation had just begun. The bird is evidently a late breeder, in fact, in this region all the flycatchers breed late.

46. *Empidonax hammondi*. HAMMOND FLYCATCHER.—Mr. Price states he has observed young of this species frequently about Pyramid Peak late in the summer.

47. *Otocoris alpestris merrilli*. DUSKY HORNED LARK.—On October 6, 1901, Mr. Taylor collected a female at Meyer's Station, and another near Lake of the Woods on October 9, at 8900 feet altitude.

48. *Pica hudsonica*. AMERICAN MAGPIE.—Common about Rowlands and in thickets along streams. I found numerous nests during the month of June containing full-grown young, but in most cases the young had already left. The nests were rough looking structures of sticks and all placed in willows from 7 to 20 feet up.

49. *Cyanocitta stelleri frontalis*. BLUE-FRONTED JAY.—Scarce on the floor of the valley but abundant on mountain sides. A nest found near Fallen Leaf Lake, placed on the branch of a small fir in plain view, 8 feet up, contained four large young on June 15, 1901. A late nest for this species was noted near Phillip's Station in a tamarack 15 feet up, which contained four small unfeathered young on July 3, 1902. When about the nest the jays are very quiet and drop their usual noisy ways.

50. *Nucifraga columbiana*. CLARKE NUTCRACKER.—This bird is not common in the valley, although the day we arrived, June 16, 1902, I saw a large band of Nutcrackers near Rowlands, and noticed others occasionally in the pine woods during my stay. They are abundant at high altitudes, as Star Lake and Pyramid Peak.

51. *Xanthocephalus xanthocephalus*. YELLOW-HEADED BLACKBIRD.—Thousands of these birds nest every year at Rowland's marsh, in the thick tules over, usually, a considerable depth of water (4 to 10 feet). Freshly built nests, eggs in all stages of incubation, and fully fledged young were found during the month of June. Sets contained from two to five eggs. The nests were compactly made and well fastened to the tules, but when the young become grown the nest is frequently tipped to one side, precipitating the juveniles into the water. In one nest, in a rather sparse tule patch, the young birds were just on the verge of falling out, and on our approach one of them tumbled into the water. We replaced the young one in the nest, when another repeated the act, and another, until we finally gave up attempting to put them back. We paddled a short distance away and watched the nest; soon the occupants, probably none the worse for their immersion, decided to set forth again. All of them succeeded in keeping afloat until they clambered up in the tules with an agility which surprised me when the helplessness of most young birds is considered.

52. *Agelaius phoeniceus neutralis*. * SAN DIEGO RED-WINGED BLACKBIRD.—This species outnumbers all other birds in the marsh and it is strange it should have been overlooked by previous workers (it not being recorded in Mr. Barlow's list). I shot seven red-winged blackbirds at random and all proved to be this species, as were all the red-wings I observed. On every trip to the marsh I found numberless nests, placed usually in small willows just above the water or attached to marsh grass. All sorts and conditions of eggs and young were found during June. On account of the unusually heavy snowfall in 1901, the lake rose rapidly in June, flooding hundreds of nests of this bird. Many were deserted, some containing eggs and others drowned young.

53. *Agelaius gubernator californicus*. BICOLORED BLACKBIRD.—Mr. Beck observed this bird nesting in the marsh near Bijou (presumably Rowlands) in June, 1896.

54. *Agelaius tricolor*. TRICOLORED BLACKBIRD.—Observed nesting on the shores of Lake Tahoe by Mr. Beck who collected a set of five eggs on June 12, 1896. Personally I have never seen either this or the preceding species and do not think they can be considered by any means common.

55. *Sturnella magna neglecta*. WESTERN MEADOWLARK.—Not uncommon in the broad meadows about Lakeside, Bijou, and Rowlands. They were rather shy, and I did not secure a specimen. To me the song seemed somewhat different from that heard in our coast valleys but a bird shot at Meyer's Station on Sept. 30, 1901, by Mr. Taylor, is recorded as this species, so I am, no doubt, mistaken.

56. *Scolecophagus cyanocephalus*. BREWER BLACKBIRD.—Common about Rowland's marsh and various meadows throughout the valley. I found nests in a variety of situations; some were placed in a depression in the damp ground in meadows, some in willows a foot or less above the

water, like those of the Red-wing, and others a few feet up in tamarack saplings. All these situations are quite at variance with those selected on the coast, which is generally in a pine or evergreen about 20 feet up. I noticed in June, 1901, large numbers of these birds nesting in the sagebrush near Carson, Nevada, owing to the absence of trees; but the most unusual nests were a number found in cavities of old piles over the water at Bijou and Rowlands. One of these, at the latter place, was above 20 feet of water and 50 yards from the shore. It held five large young on June 29, 1902, but could not be photographed successfully owing to the lack of contrast, the birds, nest and pile all being dark requiring a time exposure impossible in a canoe. As with the other blackbirds, the breeding season extends through June, although the majority of nests had young by June 15.

57. *Coccothraustes vespertinus montanus*. WESTERN EVENING GROSBEEK.—Observed by Mr. Barlow at Echo, just west of the summit, on June 14, 1901.

58. *Pinicola californica*. CALIFORNIA PINE GROSBEEK.—Mr. Barlow saw this bird at Forni's, at the base of Pyramid Peak, on June 9, 1900.

59. *Carpodacus purpureus californicus*. CALIFORNIA PURPLE FINCH.—Collected at Glen Alpine on June 24, 1900, by Mr. Price, who states it is rare on the east slope of the range.

60. *Carpodacus cassini*. CASSIN PURPLE FINCH.—This purple finch is found, though not abundantly, in Lake Valley. It was common about Wright's Lake and Forni's in the Pyramid Peak region in July, 1902. At Bijou, June 10, 1901, I located a nest in a massive pine over 100 feet up and so far out on the branch as to be inaccessible. A few days later I located a nest near Lakeside in a similar situation.

61. *Carpodacus mexicanus frontalis*. HOUSE FINCH.—Extremely common, especially about Bijou. I am inclined to think the abundance of this bird has been attributed by error to *Carpodacus cassini*. I found numerous nests in small pines and tamaracks, from six to fifteen feet up, and placed in the usual careless manner with little or no attempt at concealment. Here the birds are late breeders, nest building commencing in the latter part of June, and in most cases no eggs were deposited until July 1 or later. Most sets consisted of three eggs, of the usual white ground color with a faint tinge of bluish, lightly spotted.

62. *Loxia curvirostra bendirei*. SIERRA CROSSBILL.—Rare. Mr. Taylor collected a female near Meyer's Station Sept. 1, 1901, and it has been seen on two occasions by Mr. Price, once near Pyramid Peak, and at Glen Alpine.

63. *Leucosticte tephrocotis*. GRAY-CROWNED LEUCOSTICTE.—Observed by various writers on the summit of Pyramid Peak. On our visit, July 5, 1902, numerous leucostictes were seen flying about the boulders and on the broad patches of snow. I patiently watched a number for about half an hour with a field glass but failed to notice any indication of a nest in the vicinity. In the meantime my brother and Heinemann

had already started back for camp and, desiring to make a short cut, went down the slope where it is very precipitous. Here, after some distance, it became difficult to advance or retreat. A little distance away a pair of leucostictes was observed in a rocky ledge. The pair was watched, and soon one flew into a long, winding, impenetrable cavity among the huge granite slabs of the ledge. On their approaching the spot the bird flew out and began hopping about showing some anxiety. There is little doubt that the birds had a nest there but it was impossible to reach it.

64. *Astragalinus psaltria*. ARKANSAS GOLDFINCH. — A straggler was shot by Mr. Price on the summit of Mount Tallac, August, 1892.

65. *Spinus pinus*. PINE SISKIN. — Observed commonly by Mr. Price at the head of Glen Alpine gorge where he has taken young in July and August.

66. *Zonotrichia leucophrys*.* WHITE-CROWNED SPARROW. — This sparrow is found sparingly about Bijou and Lakeside in Lake Valley, but is abundant on the summit and about Pyramid Peak. It is a pleasing songster, the song being similar to that of *Z. l. nuttalli*, but the ending is more abrupt. I have heard the male singing as late as nine o'clock at night and at the first signs of daybreak. On June 10, 1901, scarcely fifty yards from camp, my brother stumbled on a nest well concealed among the grass at the foot of a small willow. We had passed this spot a number of times but the parent had been so alert as to steal off unnoticed. The eggs, four in number, were fresh and measured .87 X .62, .86 X .62, .83 X .62, .72 X .59. They are greenish white with numerous small spots of reddish brown. The nest is of weed stems and grasses, lined with horse-hair. It measures 4½ inches, over all, while the cavity is 2½ by 2 inches deep. I took the parents with this nest and the male, with a broken wing led me a merry race over the meadow, as I had used the last shell in my auxiliary barrel.

67. *Zonotrichia leucophrys gambeli*. INTERMEDIATE SPARROW. — Mr. Taylor secured three specimens about Glen Alpine and one at Meyer's Station during the latter half of September, 1901, while in its migration from the north.

68. *Spizella socialis arizonæ*.* WESTERN CHIPPING SPARROW. — Very common throughout the valley, nesting in pine and tamarack saplings, usually five or six feet up. The nests are all very similar — of grasses and vegetable fibres lined with horse or cow-hair, or both. They are placed insecurely, owing to the character of the trees, near the end of the branch. In Yosemite Valley, in the summer of 1898, I found most nests placed in willows where they had a better foundation. The reason why the birds do not select the willow as a nesting site here is probably because they are not fully leaved when the breeding season commences. Some nesting dates are as follows: June 10, 1901, Bijou, four eggs, fresh; June 11, 1901, Bijou, four, incubation just begun; June 11, 1901, Bijou, four small young; June 17, 1902, Bijou, four eggs, incubation just begun; July 2, 1902, Bijou, four fresh eggs.

69. *Spizella breweri*. BREWER SPARROW. — Several were shot near Meyer's Station in July, 1896, by Mr. Wilfred Osgood. I saw what I took to be this bird on the brush covered rocky slopes on the east side of the valley, but did not notice it about Bijou.

70. *Junco hyemalis thurberi*. * SIERRA JUNCO. — A common summer resident; frequents the fertile meadows and localities adjacent to streams more than the dry, sparsely wooded sections of the valley. My first nest was found on June 7, 1901, containing four eggs that were just blowable. This nest was completely hidden by the wide drooping leaves of a wild sunflower, and was situated on the bank of an irrigating ditch, two miles over the State line in Nevada. My prettiest set of eggs was taken a long distance west of the summit, one mile west of Maple Grove, near River-ton, on June 13, 1902. While driving along the road we flushed a junco from a dripping mossy bank just above the road. The nest was very damp, and well lined with coon hair. The eggs, three in number, were fresh, and heavily marked in a wreath around the larger end with great blotches of rich chestnut red and lavender. Near Phillip's Station, on June 16, 1902, a nest was discovered on the ground, flush with the surface, with four eggs of the lightly marked type, in which incubation had just begun. A curious nest was noted at Bijou in an empty tin can. It had held two eggs, but these had rolled out on the ground and the birds had deserted it. At an altitude of about 9000 feet, while climbing Pyramid Peak, on July 5, 1902, I collected a nest with three partly incubated eggs placed under the projecting ledge of a great boulder. Another was found with four eggs, in which incubation had also just begun. It was located in a similar situation and appears in the photograph by my brother who found it. All the above nests are similar in construction, being made of grasses and weed stems and some are lined with horse or other hair.

71. *Melospiza cinerea montana*. MOUNTAIN SONG SPARROW. — A rather common bird about Rowlands and also seen occasionally in thickets along streams, where a nest was found on the ground June 20, 1902, containing five badly incubated eggs. It was so securely hidden by a tall broad-leaved plant that I would have passed it by unnoticed had not the parent fluttered off at my feet. On June 22, 1902, I found a nest at Rowland's Marsh in a willow, over deep water, containing four small young.

72. *Melospiza lincolni*. LINCOLN SPARROW. — On June 7, 1902, Mr. Forrest Hanford secured a specimen on a meadow at 7,200 feet elevation, where it was probably about to breed.

73. *Passerella iliaca unalaschensis*. TOWNSEND SPARROW. — Mr. Price records six sparrows of this form taken on Silver Creek, within three miles of Pyramid Peak, in September, 1896. One specimen was very light colored and referable to the Fox Sparrow rather than to *P. i. unalaschensis*.

74. *Passerella iliaca megarhyncha*. THICK-BILLED SPARROW. — Rather abundant on the bushy, rocky hillsides in the eastern part of Lake Valley, where it delivers its sweet song from some patch of brush or jagged rock. I was unable to locate any nests.

75. *Oreospiza chlorura*. GREEN-TAILED TOWHEE.—Mr. Taylor secured two specimens in September at Glen Alpine Springs.

76. *Zamelodia melanocephala*. BLACK-HEADED GROSBK.—I noticed it on a ridge east of Fallen Leaf Lake where a male was pouring forth his clear, joyous notes from the top of a fir.

77. *Cyanospiza amcena*. LAZULI BUNTING.—A single specimen was shot in September, 1896, on Silver Creek, at about 7000 feet, by Mr. Price, who states it is rare above 4500 feet.

78. *Piranga ludoviciana*. WESTERN Tanager.—The most brilliantly colored bird in the region. While it is fairly abundant in Lake Valley, it is more common in the heavy timber on the mountain sides. A nest was found June 11, 1901, on the Bijou camp grounds in a tamarack only 15 feet up (misprinted 25, Osprey, Vol. V, No. 8), containing five fresh eggs. Another, at Fyffe, 38 miles west of the summit, was 50 feet up in a pine, and held four partly incubated eggs. The average height, however, is about 30 feet. The nests are frail grosbeak-like structures of rootlets.

79. *Petrochelidon lunifrons*. CLIFF SWALLOW.—Common; forty nests were found under the eaves of an old saloon built over the water at Rowlands. Eggs and young in all stages during June.

80. *Hirundo erythrogaster palmeri*. WESTERN BARN SWALLOW.—Common, nests in barns and other outbuildings about Bijou and Rowlands. A rather strange nest was found at the latter place on June 19, 1902, containing four fresh eggs. It was plastered against a rafter in a small cottage, the bird gaining entrance through a small jagged hole in a windowpane.

81. *Tachycineta bicolor*. * TREE SWALLOW.—Abundant along the lake shore, especially about Rowlands, where it nests in dead trees and stumps about the marsh. A nest found at this place on June 12, 1901, was placed in a hole of a pile of an old wharf, over the water, and held six eggs in which incubation had just begun. The nest was profusely lined with feathers. On June 22, 1902, a nest was found in the same hole with five well incubated eggs and two others nearby held large young.

82. *Tachycineta thalassina*. VIOLET-GREEN SWALLOW.—Seen in August on the lakes in Glen Alpine nearly every year by Mr. Price.

83. *Vireo gilvus swainsoni*. WESTERN WARBLING VIREO.—Observed by Mr. Barlow on the Forni meadow near Pyramid Peak, altitude 7500 feet, in June, 1900.

84. *Vireo solitarius cassini*. CASSIN VIREO.—Mr. Price notes it as rare in Glen Alpine except during the early migration of the young when they are very common.

85. *Helminthophila rubricapilla gutturalis*. CALAVERAS WARBLER.—Mr. Price states it is rather common at Glen Alpine and on the slopes of Mt. Tallac to at least 8000 feet.

86. *Helminthophila celata lutescens*. LUTESCENT WARBLER.—Observed by Mr. Price to be rather common in Glen Alpine in July and August, although he states he has no evidence that it breeds.

87. *Dendroica aestiva morcomi*. WESTERN YELLOW WARBLER. — This I noted as the commonest warbler in Lake Valley. All nests I found were in pines or tamaracks, and placed rather insecurely when on the end of the branch, owing to the character of the tree, but when found in saplings the nest was placed against the trunk. One in a tamarack, 12 feet up, near Bijou, contained three well incubated eggs on June 25, 1902, and another, found on the same day, near by, held four small young, and was placed 8 feet up in a pine.

88. *Dendroica coronata hooveri*. ALASKA MYRTLE WARBLER. — I am reluctant to make observations that may be questioned, but I am reasonably sure I saw a bird of this species near Lakeside on June 26, 1902. It was a male and lit close to me on the dead limb of a pine. Unfortunately I did not have a gun with me but having that 'Audubonian' fire-arm, the field glass, I was enabled to examine the bird well. My notes, made at the time, tally with the descriptions of this bird. It had some resemblance to *Dendroica auduboni*, but the conspicuous white throat distinguished it in an instant.

89. *Dendroica auduboni*. AUDUBON WARBLER. — This highly colored warbler is, next to *Dendroica aestiva*, the most abundant species in the valley, and in some districts is even more common. A nest found with four almost fresh eggs on June 17, 1902, at Bijou, was placed 25 feet up against the main trunk of a tamarack. Another at Emerald Bay, on the lake shore, in a pine four feet up, held five eggs, four well incubated and one perfectly fresh. This was on June 27, 1902. Both sets are heavily and richly marked, as is usual with the eggs of this species. The nests are similar, of hemp fibres, fine rootlets, bits of bark, and lined very profusely with feathers, and can be distinguished by their large size from those of *D. aestiva* at a glance.

90. *Dendroica townsendi*. TOWNSEND WARBLER. — A male was shot near Gilmore Lake, on the slope of Mt. Tallac, at 8500 feet, early in August, 1900, by Mr. Chas. Merrill and is recorded by Mr. Price.

91. *Dendroica occidentalis*. HERMIT WARBLER. — Mr. Price notes it as rather rare, except late in July and early in August, about Silver Creek when the migration of the young takes place.

92. *Geothlypis tolmiei*. TOLMIE WARBLER. — Mr. Price states it is rather common up to 8000 feet, both in the Silver Creek region and on Mt. Tallac.

93. *Geothlypis trichas occidentalis*. — WESTERN YELLOW-THROAT. — Mr. Price observed a yellow-throat in the marshes about Tallac referable to this species, but secured no specimens.

94. *Wilsonia pusilla pileolata*. PILEOLATED WARBLER. — This warbler is not uncommon in the willow thickets along streams and about Rowlands. Mr. Price records it as common in Glen Alpine, where a nest, placed on the ground under a fallen aspen, at Lily Lake, was found in July, 1898, with five eggs. Mr. Barlow also saw this bird on the summit on June 14, 1901.

95. *Cinclus mexicanus*. AMERICAN DIPPER.—Rare in the valley proper but not uncommon along the turbulent streams in the mountains that surround it. On June 25, 1902, I noticed a pair of dippers and young along a small stream on the road to Star Lake.

96. *Troglodytes aëdon parkmani*. PARKMAN WREN.—Mr. Price observed this bird in Glen Alpine and shot a pair early in August, 1900, on Mt. Tallac at 8000 feet.

97. *Certhia familiaris zelotes*. SIERRA CREEPER.—Rather scarce. I noticed several pairs of these birds in groves of dead pines in marshy tracts at Rowlands.

98. *Sitta carolinensis aculeata*. SLENDER-BILLED NUTHATCH.—I saw this bird frequently on the summit in the middle of June, 1902. Also observed by Mr. C. Barlow and Mr. L. E. Taylor. Mr. Price also remarks it is common above 6000 feet on both sides of the range, at Silver Creek and about Glen Alpine.

99. *Sitta canadensis*. RED-BREASTED NUTHATCH.—Mr. Price notes it as common at Silver Creek during migrations and states it may breed there.

100. *Sitta pygmæa*. PYGMY NUTHATCH.—A family were noted on Silver Creek, at 7000 feet, in August, 1896, and several were taken by W. W. Price, who states it is possible they were migrating.

101. *Parus gambeli*. MOUNTAIN CHICKADEE.—The sprightly little chickadee is rather common about the valley and was observed up to above Star Lake, at about 9000 feet altitude. A curious nest of this bird was found on June 26, 1902, near Bijou, placed in a pine stub, the entrance being from the top of the stub running down about a foot perpendicularly. The parents were confiding little fellows, flitting back and forth with food for the five young ones notwithstanding I stood only a few feet away.

102. *Regulus satrapa olivaceus*. WESTERN GOLDEN-CROWNED KINGLET.—Mr. Taylor collected a female at Glen Alpine, Sept. 19, 1901.

103. *Regulus calendula*. RUBY-CROWNED KINGLET.—Mr. Taylor took an adult female at Glen Alpine, Sept. 19, 1901. Mr. Price states it breeds commonly in the forests of alpine hemlock on the slopes of Pyramid Peak and at the head of Glen Alpine but that he has never succeeded in finding a nest.

104. *Myadestes townsendi*. TOWNSEND SOLITAIRE.—Mr. Taylor collected four specimens at Glen Alpine Springs in September, and one at Meyer's Station, Oct. 7, 1901.

105. *Hylocichla ustulata*. RUSSET-BACKED THRUSH.—A single record. Mr. H. R. Taylor found a nest at Echo just west of the summit (altitude 5700 feet), June 16, 1902, with four eggs, placed in a small dense fir tree in a meadow.

106. *Hylocichla aonalaschkæ sequoiensis*. SIERRA HERMIT THRUSH.—I have never noticed this bird on the floor of the valley but as soon as the ascent of the mountain sides is commenced the song is heard. The

bird is nowhere so abundant as about Phillip's Station, on the summit. Here this peerless singer was heard occasionally through the day but more often at dusk. I found a nest, built principally of rootlets, placed in a small tamarack 6 feet up, along the road east of Phillip's Station on July 3, 1902. It contained three rather pale blue eggs in which incubation had just begun. I discovered two other nests the same day, one along the road, 6 feet up in a tamarack, with four small young; the other was found deep in the woods, artfully placed among the branches of a dead tamarack, and held four large young. In the last two cases the parents were reluctant to leave the nest, and hopped about the branches near by, showing great anxiety and settled down on the nest immediately after we left.

107. *Merula migratoria propinqua*. WESTERN ROBIN. — As usual in the Sierras the robin was the most common bird of its size, in Lake Valley as well as up to 8000 feet altitude. It begins to lay in the Lake Valley about the first of June, and a little later or earlier at other points, according to the altitude.

108. *Hesperocichla nævia*. VARIED THRUSH. — Mr. Price collected a specimen on Silver Creek, Oct. 1, 1896.

109. *Sialia arctica*. * MOUNTAIN BLUEBIRD. — Very common in Lake Valley. I found nine nests one day on a ramble near Bijou, all placed in dead trees or stumps, from 3 to 15 feet up. After the first week in June nests contained partly incubated eggs, although an occasional late nest was found. The Western Robin, Western Chipping Sparrow and the Mountain Bluebird are the three commonest birds in the pine woods, and although the latter is last on this list it is by no means the least interesting bird in the region.

FOOD HABITS OF SOME WEST INDIAN BIRDS.

BY B. S. BOWDISH.

SO FAR as I have noticed, few writers have given much attention to the extent to which many birds of families which in the States are considered more or less strictly insectivorous, feed in the West Indies largely on fruit and seeds.

In 'The Auk' for October, 1902, Mr. John Grant Wells mentions *Vireo calidris* as feeding more or less on small red berries, and occasional mention of other cases may be found.

In Porto Rico the woodpecker, *Melanerpes portoricensis*, forms

about half its bill of fare of fruit and seeds. The Gray Kingbird, *Tyrannus dominicensis*, sometimes gleans more than half of its living from vegetable substances; *Pitangus taylori* feeds about as largely on fruit, etc.; *Myiarchus antillarum* and *Blacicus blancoi* also feed quite largely on such matter. These species constitute the list of native flycatchers.

In Cuba three Woodpeckers — *Xiphidiopicus percussus*, *Melanerpes superciliaris*, and *Colaptes chrysocaulosus* — according to the stomachs that I have examined, subsist on a diet not more than one third of which is insectivorous.

Two native Vireos of Porto Rico, *V. calidris* and *V. latimeri*, feed to some extent on vegetable matter, and at times half or more of the food of the former is vegetable.

Finally, Warblers coming to Cuba and Porto Rico from the States for the winter were found to eat more or less weed seed and in some cases to feed very largely on it.

In these islands, teeming with insect life, it seems a little remarkable, even considering the temptation afforded by abundance of fruit, that birds habitually considered insectivorous should feed on vegetable matter to the extent of almost completely changing their normal food habits, and I have no explanation to account for it.

Following is the result of examinations of a few stomachs:

Melanerpes portoricensis. ♂ and ♀, July 2, seeds and buds with a small percentage of insect matter; ♀, Dec. 13, seeds and remains of worms; ♀, Dec. 28, seeds; ♀, April 8, insects; ♀, April 22, seeds and remains of spiders; ♀, two seeds and small insects; ♂, Aug. 3, insects; 4 specimens (3 ♀ and 1?), May 26, one beetles, others seeds and remains of fruit; ♀, May 30, beetles and other insects; ♀, June 27, dragonfly; ♂, Sept. 6, insects and seeds.

Tyrannus dominicensis. ♂ and ♀, July 2, small shells and coleoptera; ♀, Oct. 4, insects, chiefly coleoptera; ♂, Jan. 18, a few small berries from trees; ♀, Jan. 20, one large berry-seed and remains of insects; ♀, Jan. 24, berries and insects; ♂ and ♀, Jan. 26, seeds and insects; ♀, Jan. 27, seeds and insects; ♂, Jan. 28, insects and seeds; ♀, Jan. 29, insects.

Myiarchus antillarum. ♀, July 21, seeds and coleoptera; ♀, Jan. 18, wasps; sex? July 1, beetles and seeds of small fruit, ♂, July 11, worm; ♀, March 1, fruit and beetles; ♂, June 26, seeds of small fruit and one beetle; ♂, July 18, seeds of berries; ♀, a few seeds and large quantity of coleoptera; ♀, Sept. 5, seeds of a small yellow fruit and one beetle; ♀,

Sept. 19, five seeds and a beetle; ♂, Oct. 5, large white grub and other insects; ♀, Oct. 15, several seeds of small fruit and wasps; ♀, Oct. 19, two thirds berries and one third insects.

Blacicus blancoi. ♂, Feb. 3, beetles; ♂, Feb. 10, beetles; ♀, May 30, flies; ♂, June 2, beetles; ♀, June 25, beetles; ♀, July 15, beetles; ♀, July 18, insects and remains of berries; ♂, seeds of berries; ♂, July 21, beetles; ♂, July 27, beetles; ♂, July 31, beetles; ♂, Aug. 3, insects; ♀, Aug. 25, flies and millers; 2 ♂ and 1 ♀, Aug. 30, beetles; 2 ♂, Sept. 2, insects; ♂, Sept. 3, beetles; ♂, Sept. 14, beetles; ♀, Sept. 15, beetles; ♂ and ♀, Sept. 22, beetles; ♂, Sept. 23, beetles; ♂, Oct. 16, beetles.

Vireo calidris. ♂, July 2, insects; ♂, May 27, insects; ♀, July 1, almost entirely seeds of small fruit; ♀ juv., May 30, legs of beetle; ♂, May 30, insects and seeds of a small red fruit; ♂, July 14, insects; ♂, July 17, small fruit remains; ♀, Sept. 28, insects.

Vireo latimeri. ♂, ♀ and juv. ♂, Apr. 1, insects and in juv. small centipede; ♂, Apr. 22, insects; ♂ juv. July 17, grasshopper and small red berries and seeds; ♂ and ♀, July 26, insects and small fruit seeds; ♂, Aug. 1, chiefly seeds; ♂ juv., Sept. 5, worm and insects; ♂ juv., Sept. 14, insects; ♂, Sept. 17, large tree seed and several beetles; ♂, Sept. 18, cricket and five tree seeds; ♂, Sept. 23, flies and worm; ♂, Sept. 25, small worms; ♂, Sept. 26, small hairy caterpillars; ♂ and ♀, Sept. 27, beetles and one seed; ♀, Oct. 9, 10 small black seeds and trace of insects; ♂, Oct. 10, yellow berries and legs of insects.

I also found seeds in the stomachs of the Black and White, Parula, Myrtle, Palm, and Prairie Warblers, particularly the Myrtle and Palm, the latter feeding almost exclusively on seeds of weeds, near Santiago and Guama, Cuba.

This would appear largely to eliminate the question of food supply from the problem of causes of bird migration.

A REVIEW OF THE GENUS *CATHERPES*.

BY HARRY C. OBERHOLSER.

IDENTIFICATION of the Texas Cañon Wrens has involved a canvass of the entire group, the results of which investigation are presented herewith.

The genus *Catherpes* Baird¹ is a very well-defined one, of which there seem to be five recognizable forms, all, without doubt, subspecies of *Catherpes mexicanus*.

Catherpes mexicanus mexicanus (Swainson).

Thryothorus mexicanus SWAINSON, Zool. Illustr. Ser. 2, I, 1829, pl. xi.

Troglodytes murarius LICHTENSTEIN, Preis-Verz. Mex. Vögel, 1830, No. 80.

Thryothorus guttulatus LAFRESNAYE, Rev. Zool. 1839, p. 99.

Chars. subsp.—Largest and darkest, the depth of color especially noticeable on the upper surface.

Type locality.—Real del Monte, Hidalgo, Mexico.

Geographical distribution.—Tableland of Mexico, excepting the northern portion.

This essentially Mexican race occurs nowhere in the United States, all records to such effect belonging under the other forms.

Catherpes mexicanus albifrons (Giraud).

Certhia albifrons GIRAUD, Descr. Sixteen Species North Am. Birds, 1841, p. 31.

Chars. subsp.—Similar to *Catherpes mexicanus mexicanus*, but rather smaller, except the bill; and decidedly paler above, the head more grayish.

Type locality.—"Texas" [probably northeastern Mexico].

Geographical distribution.—States of Nuevo Leon, Coahuila, and probably Tamaulipas, Mexico; north to Texas at the mouth of the Pecos River.

¹ Pac. R. R. Rep., IX, 1858, p. 356 (type *Thryothorus mexicanus* SWAINSON).

The specimen upon which Giraud based his description of *Certhia albifrons*, although a dark, immature bird, with a small bill, agrees best with the form that enters the United States only along the lower Rio Grande,—a conclusion already announced by Mr. Nelson;¹ but that this type, now in the United States National Museum, came originally from within the present boundaries of Texas, as claimed, may well be doubted, particularly if the results of investigation regarding others of Giraud's reputed "Texas" birds be admitted as negative evidence.

***Catherpes mexicanus polioptilus*, subsp. nov.**

Chars. subsp..—Like *Catherpes mexicanus albifrons*, but paler above and with a much shorter bill.

Type locality.—Deer Mountain, Chisos Mountains, Texas.

Geographical distribution.—From western Texas, through New Mexico, Arizona, and northwestern Mexico to Lower California.

Description.—Type, male adult, No. 168350, U. S. Nat. Mus., Biological Survey Collection; Deer Mountain (opposite Mount Emory to the east), Chisos Mountains, Texas, 6500 feet; H. C. Oberholser. Upper surface grayish brown, becoming rufescent posteriorly, and spotted with darker brown and buffy; rump and upper tail-coverts chestnut; wings fuscous irregularly barred and margined externally with light chestnut; tail pale chestnut, with narrow black bars; ill-defined superciliary stripe dull whitish; cheeks, lower part of auriculars, throat, and jugulum white; abdomen chestnut, sparingly dotted with darker brown.

Specimens from New Mexico, Arizona, and Lower California are, as a rule, somewhat darker than those from Texas, and though evidently verging more or less toward *punctulatus*, apparently belong here.

Variation, both seasonal and individual, is great in both *polioptilus* and *conspersus*. Young birds of these races seem to be darker than adults.

***Catherpes mexicanus punctulatus* Ridgway.**

Catherpes mexicanus punctulatus RIDGWAY, Proc. U. S. Nat. Mus. V, 1882, p. 343.

¹ Auk, XV, 1898, p. 160.

Chars. subsp.—Similar to *Catherpes mexicanus polioptilus*, but decidedly darker above, and of smaller size.

Type locality.—Forest Hill, Placer County, California.

Geographical distribution.—California (excepting the southeastern part), Oregon, and southern Washington (Almota).

Catherpes mexicanus conspersus Ridgway.

Catherpes mexicanus var. *conspersus* RIDGWAY, Amer. Nat. VII, Oct. 1873, p. 602.

Chars. subsp.—Resembling *Catherpes mexicanus polioptilus*, but smaller (except the bill); paler and more rufescent above, particularly on the head.

Type locality.—Fort Churchill (southeast of Wadsworth), Nevada.

Geographical distribution.—Wyoming and Colorado, west to Nevada and southeastern California.

Average millimeter measurements of males of the five forms of *Catherpes* are as follows :

| No. of specimens | Name | Wing | Tail | Exposed culmen | Tarsus | Middle Toe |
|---------------------|--|------|------|-------------------|--------|---------------|
| 5 | <i>Catherpes mexicanus mexicanus</i> | 65.8 | 56.2 | 22.2 | 19.7 | 15.1 |
| 2 | <i>Catherpes mexicanus albifrons</i> | 62.8 | 53.8 | 24.3 | 18.5 | 14.3 |
| 5 | <i>Catherpes mexicanus polioptilus</i> | 63.4 | 54.6 | 20.7 | 19.1 | 13.7 |
| 5 | <i>Catherpes mexicanus punctulatus</i> | 59.9 | 50.4 | 19.1 | 18.3 | 13.6 |
| 5 | <i>Catherpes mexicanus conspersus</i> | 59.6 | 52.1 | 20.4 | 17.5 | 13.2 |

A SYNOPSIS OF THE GENUS *PSALTRIPARUS*.

BY HARRY C. OBERHOLSER.

THE genus *Psaltriparus*, though by Dr. Gadow not considered separable from *Acredula*,¹ is, nevertheless, an easily recognizable group. As commonly accepted it comprises the few small species of Paridæ treated below.

¹ Cat. Birds Brit. Mus., VIII, 1883, p. 54.

Psaltriparus Bonaparte.

Psaltriparus BONAPARTE, Compt. Rend. XXXI, 1850, p. 478.

Psaltrites CABANIS, Journ. f. Orn. 1881, p. 333 (nom. emend. pro *Psaltriparus*).

Type.—*Psaltriparus personatus* Bonaparte; = *Parus melanotis* Hartlaub.

Range.—Guatemala, Mexico, and the western United States.

Psaltriparus melanotis melanotis (Hartlaub).

Parus melanotis HARTLAUB, Rev. Zool. 1844, p. 216.

Psaltriparus personatus BONAPARTE, Compt. Rend. XXXI, 1850, p. 478.

Psaltrites helviventris CABANIS, Journ. f. Orn. 1881, p. 333, pl. iv, fig. 1.

Type locality.—Mexico (southern part).

Geographical distribution.—Guatemala, and southern Mexico north at least to Hidalgo and Michoacan.

The black sides of the head and the rich brown color of the back serve readily to distinguish this form from all others of the genus. The bird described by Cabanis as *Psaltrites helviventris*,¹ from Western Mexico, interrogatively Tehuantepec, though sometimes synonymized with *Psaltriparus plumbeus*, is undoubtedly the female of *P. melanotis*.

Psaltriparus melanotis iulus Jouy.

Psaltriparus melanotis iulus JOUY, Proc. U. S. Nat. Mus. XVI, 1894, p. 776.

Type locality.—Hacienda El Molino, Jalisco, Mexico.

Geographical distribution.—Jalisco, with probably north central Mexico.

Similar to *P. melanotis*, but the back paler, as are also the lower parts.

Psaltriparus melanotis lloydi (Sennett).

Psaltriparus lloydi SENNETT, Auk, V, Jan. 1888, p. 43.

Psaltriparus santaritæ RIDGWAY, Proc. U. S. Nat. Mus. X, September, 1888, p. 697.

¹ Loc. cit.

Type locality. — Limpia Cañon, near Fort Davis, Texas.

Geographical distribution. — Southwestern Texas, southern New Mexico, southern Arizona, and northern Mexico.

Resembles *P. m. iulus*, but the back is almost clear plumbeous instead of light brown. Specimens from northern Mexico (Chihuahua) show intergradation with *iulus*, so that *P. lloydi* must be considered a subspecies of *P. melanotis*.

Adult males of *lloydi* are of course distinguishable at a glance from the very distinct *Psaltriparus plumbeus*, but females and young require to be examined more closely. The adult female of the former differs from both sexes of *plumbeus* in having a distinct blackish streak along each side of the head above the auriculars. Young males present generally a greater contrast between the color of the head and back than is seen in *plumbeus*, and, furthermore, nearly always have, even when very young, some black or blackish brown on the sides of the head or neck, with often a narrow black or blackish collar on the hind neck, — this, however, frequently incomplete or partially obscured. Young females have but very slight indication of blackish on the sides of the head, sometimes none, in which latter condition they cannot with certainty be separated from *plumbeus*.

The type of Mr. Ridgway's *Psaltriparus santaritæ* is an immature male of *lloydi*, as a careful examination shows, and it can be easily matched by young male specimens from any part of the range of the latter.

Psaltriparus plumbeus (Baird).

Psaltria plumbea BAIRD, Proc. Acad. Nat. Sci. Phila. June, 1854, p. 118.

Type locality. — Little Colorado River, Arizona.

Geographical distribution. — Western Texas to eastern California, north to eastern Oregon and western Wyoming.

Psaltriparus minimus minimus (Townsend).

Parus minimus TOWNSEND, Journ. Acad. Nat. Sci. Phila. VII, pt. ii, 1837, p. 190.

Type locality. — Columbia River.

Geographical distribution. — Pacific coast region, from San Francisco Bay, California, to Washington.

The darkest specimens come from the state of Washington. Those from the northern coast of California, particularly near San Francisco Bay, are intermediate between *minimus* and *californicus*.

Psaltriparus minimus californicus Ridgway.

Psaltriparus minimus californicus RIDGWAY, Proc. Biol. Soc. Wash. II, 1884, p. 89.

Type locality. — Baird, Shasta County, California.

Geographical distribution. — California, excepting the northern coast region; northern Lower California.

Lighter colored than true *P. minimus*, and apparently a good form. We therefore can see no reason for the suppression of the name *californicus*, which Mr. Grinnell has recently sought to accomplish.¹

Psaltriparus grindæ Ridgway.

Psaltriparus grindæ RIDGWAY, Proc. U. S. Nat. Mus. VI, 1883, p. 155 (Belding MS.).

Type locality. — Laguna, Lower California.

Geographical distribution. — Southern part of Lower California.

This bird seems to be specifically distinct from *Psaltriparus minimus*, as Mr. Brewster has recently stated.²

The name, moreover, should be credited to Ridgway instead of Belding, to conform to the present treatment of manuscript names.²

¹ Pac. Coast Avifauna, No. 3, 1902, p. 72.

² Bull. Mus. Comp. Zool., XLI, 1902, p. 205.

A LIST OF LAND BIRDS FROM CENTRAL
WASHINGTON.

BY ROBERT E. SNODGRASS.

DURING the summer of 1902 the Washington Agricultural College equipped and maintained in the field for one month, a biological collecting expedition. The material obtained includes principally mammals, birds, reptiles, fishes, insects and plants. The birds are given in the appended list.

The region selected as the basis of exploration is the old dry cañon of the Columbia River in the northeast quarter of Douglas County, known as the Grand Coulee. This is simply a great gorge fifty miles long and from one to two miles wide, cut down three hundred to five hundred feet into the enormous layers of basalt that form the top of the country throughout central and southeast Washington.

Although the Grand Coulee is now dry, with the exception of scattered, mostly alkaline lakes, having neither outlets nor inlets, it certainly at one time was nothing less than the channel of the Columbia River. There is no doubt that the latter, during glacial times, was so dammed up to the west that its original course became entirely closed. Its waters then rolled back upon themselves and a great lake was formed between the mouths of the Sans Poil and Okanogan Rivers. When this became too great for its embankments, an outlet stream started off overland to the southwest. This, however, soon cut for itself a channel in the soft basalt rock, and before the glaciers released the dammed up waters of the lake and let them once more follow their natural course in a great bend to the west and south, this short-cut stream had formed the Grand Coulee. It met the old river bed far to the southwest, near the Saddle Mountains and just south of where the Northern Pacific Railroad now crosses the Columbia. Since returning to its old course the river has cut its cañon down five or six hundred feet below the floor of the Coulee. This has given to the people living in this region the notion that, if water ever did flow through the Grand Coulee, it must have gone north and not south.

The Grand Coulee is, then, simply what was once a temporary short-cut for the Columbia River around the eastern face of the glaciers. Its walls, except in the neighborhood of Coulee City, are vertical cliffs rising in places probably between four hundred and five hundred feet. Their bases are everywhere hidden behind high banks of talus. This talus is continually accumulating, and is almost everywhere so new that it consists of angular fragmental material. At Coulee City, only, the walls of the Coulee are low and sloping. They are here worn down to such a gentle inclination that the Central Washington Railway is graded nearly across the cañon. At only four other places has it been possible to construct a wagon road or even a trail out of the Coulee.

Of course the mere geological interest of the Grand Coulee cannot make it of any biological importance. However, the fact that its floor is only in a few places capable of cultivation, has caused it to be left, by the advancing flood of wheat that has overwhelmed much of the Big Bend country, almost intact and in its original, native, undisturbed condition. It is a sunken biological oasis in a desert of wheat fields. Nothing can be more distressing to a naturalist than to travel across the Big Bend country and for a whole day to see not one square foot of Nature's original sagebrush verdure; to camp at night on a strip of land a few feet wide between a dusty road and a barbed-wire fence; and to 'bum' wood and water from a neighboring farm-house. Not even are there willow- and weed-fringed streams in the depressions between the hills. There is nothing left of Nature but the air and the dust of the road.

This desolateness, however, is occasionally relieved by coming upon great stretches of most refreshing 'scab-land' country. Such areas alternate with the wheat deserts in Lincoln County and occupy also a large space along the eastern edge of the Grand Coulee. On them there is scarcely any soil, only enough for sagebrush to grow on. The surface is cut by erosion into irregular hollows, low hills, abrupt walls, ridges and small tower-like buttes. A weird and wild aspect has this country — Nature's reserve for the naturalist. In the hollows are scattered about small densely alkaline lakes whose waters have a beautiful greenish-black color by transmitted light. The traveler on these strips is never

haunted by the distressing expectation of finding drinking water. The wild and formidable nature of the country is sometimes trampled on by bands of grazing cattle, but nowhere does it and never will it submit to the hideous insult of being made to support a wheat field or a farm-house. The Sage Sparrow, the Sage Thrasher and the Horned Toad live in perfect tranquillity, for no fear have they that their children's children or great-grandchildren will here ever be subjected to the shame of living on else than the sage-brush of their fathers.

To the student of geographical distribution the Big Bend fauna must be of special interest, since the country represents the northern limit of the sage-brush region in the Northwest. Immediately to the north of the Columbia River arise the low but pine clad Okanogan Mountains. On the west the sage-brush is limited by the Cascades. On the east it is bounded to the north by the region of small pines occupying Spokane County, and to the south by the (naturally) bunch-grass covered hills of the Palouse country. Collecting in the Grand Coulee possesses a great attractiveness due to the intrinsic interest of the region it represents, and, furthermore, it is enhanced through the variety given to the fauna by numerous small reedy marshes scattered through the cañon.

Numerous water birds breed in the Coulee, but we did not have time to devote much attention to them. We have specimens of the following species: *Anas boschas*, *Erismatura jamaicensis*, *Fulica americana*, *Tringa maculata*, and *Ægialitis vocifera*.

Specimens of most of the species recorded in the following list were secured. Some were merely seen, but such are so described, and in most cases the identification could not be mistaken. Where doubtful, the doubt is indicated. The paper by W. L. Dawson on the Birds of Okanogan County, referred to several times in the list, is that published in 'The Auk' for April, 1897, pages 168-182.

1. *Pediceetes phasianellus columbianus*. COLUMBIAN SHARP-TAILED GROUSE (known here in the Northwest as 'Prairie Chicken'). — None of these were met with in the Coulee region, but several individuals were seen at Crab Creek and a whole family at Sprague in the southeast part of Lincoln County. They are or have been plentiful throughout the whole southeastern part of the State.

2. *Centrocercus urophasianus*. SAGE HEN. — These great birds are

reported to be common throughout Douglas County. We obtained three specimens — an adult female and two young — from a small band of them southeast of Coulee City. None were seen in the Grand Coulee and we were told by inhabitants that they never come down into the cañon.

3. *Zenaidura macroura*. MOURNING DOVE. — Rather common throughout the Big Bend country. Several nests were found on the ground in the sage-brush.

4. *Cathartes aura*. TURKEY VULTURE. — A number seen flying about in the Coulee. Observed as far north as the Columbia River.

5. *Circus hudsonius*. MARSH HAWK. — Several seen in the Coulee flying above the small marshes.

6. *Accipiter cooperi*. COOPER'S HAWK. — Rather common along the high cliff walls of the Coulee, keeping generally above shot-gun reach.

7. *Buteo borealis calurus*. WESTERN RED-TAIL. — Common everywhere.

8. *Falco sparverius deserticolus*. DESERT SPARROW HAWK. — Common everywhere along the cliffs of the Coulee, nesting in holes high up on the walls.

9. *Asio wilsonianus*. AMERICAN LONG-EARED OWL. — Not seen in the Coulee region. Common along Crab Creek in Lincoln County.

10. *Bubo virginianus pallescens*. WESTERN HORNED OWL. — Only two individuals of this owl were seen: one was in the wheat fields near Wilbur in the northwest part of Lincoln County, the other was at Crab Creek in the southwest part of the same county. Although neither was secured there can be little doubt as to the variety since this is the resident form about Pullman in Whitman County.

11. *Speotyto cunicularia hypogæa*. — BURROWING OWL. — This owl is common throughout the central and southeastern part of the State.

12. *Ceryle alcyon*. BELTED KINGFISHER. — Several observed at Crab Creek in Lincoln County. None met with in the Coulee.

13. *Melanerpes torquatus*. LEWIS'S WOODPECKER. — One specimen obtained in the pines that occur sparsely scattered about in the north end of the Grand Coulee. The granite underlying the basalt is exposed as rough hills on the floor of the Coulee for eight miles south from the head. On this granite there grew a few evergreens, mostly small trees of *Pinus ponderosa*.

14. *Colaptes cafer collaris*. RED-SHAFTED FLICKER. — Several Flickers were heard in the pines of the northern end of the Coulee and one or two were seen, but no specimens were obtained. It is probable that they were of the form named, for Dawson records it from Okanogan County just north of here.

15. *Phalaenoptilus nuttallii*. POOR-WILL. — Abundant both in the Coulee and over the region southeast of it. Found specially numerous at Crab Creek in Lincoln County. According to Dawson, this bird in Okanogan County "is confined to semi-arid regions in valleys and 'draws.'"

16. *Chordeiles virginianus henryi*. WESTERN NIGHTHAWK.—Very common throughout the Big Bend country.

17. *Tyrannus tyrannus*. KINGBIRD.—Common throughout the Big Bend country, nesting abundantly. Taken the whole length of the Grand Coulee.

18. *Tyrannus verticalis*. ARKANSAS KINGBIRD.—This flycatcher was found everywhere that the last was observed except at the southern end of the Coulee. We found it from a short distance north of here, however, to the Columbia. It is common throughout Lincoln and Whitman Counties.

19. *Sayornis saya*. SAY'S PHOEBE.—Is not abundant but occurs everywhere in the Big Bend country.

20. *Empidonax difficilis*. WESTERN YELLOW-BELLIED FLYCATCHER.—This species was not observed anywhere in the Grand Coulee, nor in the Big Bend country till we got south to Crab Creek in the southeastern part of Lincoln County. Along Crab Creek there is a dense growth of trees, affording a resort for birds such as does not occur northwest or west of it. Hence, we found that this was the northwest limit of many birds common to the southeast in Whitman County. This flycatcher is one of them.

21. *Otocoris alpestris merrilli*. DUSKY HORNED LARK.—Common throughout the Big Bend region.

22. *Pica pica hudsonica*. AMERICAN MAGPIE.—These birds occur throughout the whole length of the Grand Coulee, but they are not very common. They were not observed on the plains to the east and south-east, but were again found at Rock Creek in Whitman County.

23. *Corvus americanus*. AMERICAN CROW.—A few bands observed at the head of the Coulee along the Columbia River. Found common at Rock Creek below Rock Lake in the northwest part of Whitman County.

24. *Xanthocephalus xanthocephalus*. YELLOW-HEADED BLACKBIRD. Common in two marshes in the Grand Coulee, one near the middle, the other about eight miles from the head. Not seen elsewhere in the Big Bend, but found at Rock Creek in Whitman County.

25. *Agelaius phœniceus*. RED-WINGED BLACKBIRD.—The writer cannot be certain that the Red-winged Blackbird of the inland Northwest is *A. phœniceus*, not having material at hand for comparison. Occurs in all marshy places.

26. *Sturnella magna neglecta*. WESTERN MEADOWLARK.—Common everywhere.

27. *Icterus bullocki*. BULLOCK'S ORIOLE.—Occurs in favorable places in the Grand Coulee throughout its length, but was not found common anywhere.

28. *Scolecophagus cyanocephalus*. BREWER'S BLACKBIRD.—Common everywhere except in sage-brush remote from water.

29. *Astragalinus tristis*. AMERICAN GOLDFINCH.—Goldfinches were

not common in the Big Bend country. A few were seen at Freshwater Lake in the south half of the Coulee, and they were rather numerous along the Columbia at the head of the Coulee.

30. *Poœcetes gramineus confinis*. WESTERN VESPER SPARROW. — This is probably the most common bird of the Big Bend region. It inhabits alike the original undisturbed sage-brush covered tracts and the most extensive wheat fields. Everywhere it flits up before one, and it is a constant occupant of all barbed-wire fences.

31. *Chondestes grammacus strigatus*. WESTERN LARK SPARROW. — Common everywhere in the Coulee and also throughout the Big Bend country.

32. *Spizella breweri*. BREWER'S SPARROW. — This very little sparrow associates everywhere with the much larger but similarly-colored Vesper Sparrow. It is, however, not nearly so abundant as the latter. The Columbia River is apparently almost the northern limit of its range in Washington, for Dawson reports but one specimen from Okanogan County.

33. *Amphispiza belli nevadensis*. SAGE SPARROW. — We found this species common on the sage-brush plain south of the Grand Coulee between the towns of Adrian and Ephrata on the Great Northern Railway, and also about Soap Lake (or Alkali Lake) in the southern end of the Coulee. North of here we did not meet with it, either in the Coulee or on the plains at either side, nor did we see it anywhere to the east or southeast. Dawson does not report it from Okanogan County. We probably collected the bird at the northern limit of its range. It has never been taken in Whitman County, and nothing is known of its range in the middle of the southern part of the State.

34. *Melospiza melodia montana* (?) MOUNTAIN SONG SPARROW. — This is a rare bird in the Big Bend. A few individuals were seen and heard near Freshwater Lake about two miles south of Coulee City. Only one specimen was obtained here. No others were met with in the whole country until we got to Crab Creek in the southeastern part of Lincoln County. The bird is abundant all over Whitman County.

35. *Pipilo maculatus* var. ? One individual seen near the town of Ephrata on the Great Northern Railway, just southwest of the mouth of the Grand Coulee. No others met with.

36. *Cyanospiza amœna*. LAZULI BUNTING. — A few individuals seen at Freshwater Lake in the southern part of the Coulee, and a few at the head along the Columbia. Only one specimen obtained.

37. *Piranga ludoviciana*. LOUISIANA TANAGER. — This species was found only on the bank of the Columbia at the head of the Grand Coulee.

38. *Petrochelidon lunifrons*. CLIFF SWALLOW. — Common throughout the entire length of the Coulee, nesting along the cliffs. This is also the commonest swallow all over the Big Bend country.

39. *Hirundo erythrogaster*. BARN SWALLOW. — This swallow was not met with in the Coulee. A few were seen about the towns of Wilbur and Harrington in Lincoln County.

40. *Tachycineta thalassina lepida*. NORTHERN VIOLET-GREEN SWALLOW. — This species was common at various places in the Grand Coulee, but was not so universally abundant as the Cliff Swallow.

41. *Lanius ludovicianus excubitorides*. WHITE-RUMPED SHRIKE. — Not common but found the whole length of the Coulee.

42. *Dendroica aestiva*. YELLOW WARBLER. — Found wherever favorable clumps of small trees or bushes occur.

43. *Geothlypis trichas occidentalis*. WESTERN YELLOW-THROAT. — Common in reedy marshes of the Grand Coulee. Taken also at Rock Creek in the northwest part of Whitman County.

44. *Icteria virens longicauda*. LONG-TAILED CHAT. — We found this bird near the town of Ephrata southwest of the mouth of the Grand Coulee, at various places in the Coulee as far north as the Columbia, at Crab Creek in the southeastern part of Lincoln County, at Rock Creek in northwestern Whitman County. It occurs also about Pullman and along the Snake River in Whitman County.

45. *Setophaga ruticilla*. AMERICAN REDSTART. — One male specimen taken in dense growth of trees along Crab Creek in southeastern part of Lincoln County. A female seen here also, but otherwise the species was not met with.

46. *Oroscoptes montanus*. SAGE THRASHER. — This bird is seldom seen and it confines itself to the undisturbed sage-brush areas. We saw two individuals near the town of Ephrata on the Great Northern Railway, another in the Grand Coulee somewhat north of the middle, a fourth at Crab Creek in Lincoln County, and a fifth one in the wide strip of 'scab-land' just south of Sprague in Lincoln County. Two specimens were obtained.

47. *Galeoscoptes carolinensis*. CATBIRD. — This bird is common in Whitman County, and we found it in the southeastern part of Lincoln County at Crab Creek. Nowhere beyond here, however, *i. e.*, to the north or west, did we meet with it.

48. *Salpinctes obsoletus*. ROCK WREN. — This wren is common throughout the length of the Grand Coulee, but it almost confines itself to the slopes of talus along the bases of the walls. It occurs also in all of the 'scab-land' country where there is a great deal of bare rock forming low walls and projecting in rugged irregular masses. It is never to be found on a level open country. Even in the Coulee it seldom ventures far out onto the flat floor of the cañon, invariably associating itself only with rocky places.

49. *Cistothorus palustris plesius*. WESTERN MARSH WREN. — Rather common in some of the marshes of the Grand Coulee. Although the writer has no material at hand for other localities for comparison, there is probably no doubt of the identification here given.

50. *Parus atricapillus occidentalis*. OREGON CHICKADEE. — Found common along Crab Creek in Lincoln County, but not met with in the Coulee country.

51. *Merula migratoria propinqua*. WESTERN ROBIN.—Found throughout the Coulee but nowhere very plentiful.

52. *Sialia arctica*. MOUNTAIN BLUEBIRD.—Two specimens obtained in the Grand Coulee, both north of the middle. No others seen anywhere in the Big Bend country.

GENERAL NOTES.

The Dovekie (*Alle alle*) on Long Island, N. Y.—January 15, 1903, Mr. George W. Mott of Westminster Kennel Club brought in a Dovekie to be mounted. I inquired where he procured it, and he informed me that it had been given him by a boy who found it the morning previous, lying in the road midway between the steamboat dock and Babylon Village. It evidently had struck either the electric light or telephone wires, as the neck and breast were much bruised. The bird was found in a road crossing meadows near Great South Bay, and at least three and one half miles from the ocean. Both plumage and body were in good condition.—HENRY MOTT BURTIS, *Babylon, L. I.*

A Hybrid Duck, *Anas boschas* × *Nettion carolinensis*.—Hybrids among the Anatidæ are well known to be of frequent occurrence and some of the crosses are so common as to be scarcely worthy of record. A specimen that has recently come into possession of the Academy of Natural Sciences of Philadelphia, however, seems to be quite an unusual mixture, and a hasty glance through the literature fails to discover a similar record, although there are several instances of hybrids between *Anas boschas* and the old world species *Nettion crecca*.

The bird in question was secured by my friend, Dr. Charles B. Penrose of Philadelphia, on the upper part of Currituck Sound, N. C., on January 17, 1903. It is a drake and combines in almost equal proportions the characters of the Mallard and Green-winged Teal. The back is mainly Teal with the plainer feathers of the Mallard showing on the median line; the wings are also those of the Teal but the speculum is bluer and edged with black, while the fulvous bar is mixed with black and white. Below the belly is dusky like the Mallard's, with the same fine transverse vermiculations, and while the breast is spotted with black like the Teal's, the ground color is rich chestnut, with a tendency to lighter edges to the feathers as in the Mallard. The head is solid green like that of the Mallard with a narrow white neck band, and with a rufous frosting on the occiput covering part of the area so colored in the Teal. On the sides of the breast are the characteristic diagonal white stripes of the Teal. Size intermediate between the two.

The bird is strikingly beautiful and its flesh, in the opinion of an epicure, was as fine as any duck he had ever eaten.—WITMER STONE, *Academy of Natural Sciences, Philadelphia, Pa.*

A Correction.—In 'The Auk' for 1902, p. 76, I noted a European Widgeon (*Mareca penelope*) taken in North Carolina as probably the first to be recorded from the State. I find a record, however, which I previously overlooked, in the Bulletin of the Nuttall Club for 1879, p. 190, where the capture of two males is recorded, one on Dec. 17, 1878, and one on Jan. 17, 1879, by De L. Berier.—REGINALD HEBER HOWE, JR., *Concord, Mass.*

Wood Ibis in Montana.—It will be of interest to the readers of 'The Auk' to know that a specimen of the Wood Ibis, *Tantalus loculator* Linn., was taken in Montana early in October, 1902. The specimen was sent me from Madison Valley, Madison County, where it was shot by Mr. Bert Maynard, Ennis, Mont. While Mr. Maynard and two other men were in the barnyard feeding the pigs, the bird came and lit on the ground among the pigs and sheep and began feeding on the grain. It was reported to be either "very tame or very tired" and did not take flight even when closely approached.

The bird is young and undersized and was identified for me by Edgar A. Mearns, Major and Surgeon, U. S. A. The head and neck are not bald as in the adult, but are clothed with the plumage of the young.

The specimen is deposited in the collections of the Montana Agricultural College.—R. A. COOLEY, *Montana Agric. College, Bozeman, Mont.*

Woodcock Notes.—I have recently received several interesting dates regarding the occurrence of the American Woodcock (*Philohela minor*) in Massachusetts. Mr. Edward A. Brigham of Grafton, Mass., informs me that he shot a bird several years ago on Christmas Day which was in excellent condition. Also, that on March 7, 1901, he saw a bird of this species—the earliest spring date in his experience. On March 17, 1903, he put up a fine large bird at the same place. Deputy Thomas L. Burney of Lynn, Mass., informs me that he has a specimen of a Woodcock, which was picked up on Estey St., Lynn, Mass., by Mr. Geo. Woodman on Dec. 11, 1902, while still alive, but in an emaciated condition.—GEORGE H. MACKAY, *Boston, Mass.*

A Turnstone (*Arenaria interpres*) Taken in the Mid-Pacific.—I was a passenger on the schooner 'Julia E. Whalen' returning from Marcus Island when, on August 28, 1902, in Long. 174° W., Lat. 33° N., a Turnstone came alongside and after a few moments dropped down on the deck. I saw the bird when it was quite a distance off, coming from a northerly direction and flying directly for the vessel. On its nearer approach it was not difficult to determine the species, as it made two or

three narrowing circles about the schooner preparatory to alighting, which it soon did in a dazed and somewhat exhausted condition. I caught the bird in my hands, and on examination I found it to be literally nothing but skin and bones. However, we were loath to take its life and accordingly improvised a cage on the bottom of which was placed a quantity of small pieces of rock from the ship's ballast. No sooner had our captive been placed in the cage than it began to flip these stones over with its beak, in search of its usual quarry. A dish containing salt water was placed within reach. After taking a few swallows, it proceeded to toss stones and loose bits into the receptacle with its beak, and then, for want of something better to do, it waded in and tossed them out again. Fresh water it did not seem to care for at all. We were at a loss to know what we could offer the bird from the ship's store that it would be liable to eat. Lobster, being shell-fish, was first tried. Of this the bird would only take bits in its bill when it would note an unusual flavor, and condemn it as food. Bits of oyster were tried and similarly rejected. Tinned clam, roast meat, and fresh fish were refused. Boiled rice and other cereals were offered without avail. Finally cockroaches, which were the only insect pest on shipboard, were suggested and tried. It was interesting to watch the Turnstone assault them. The bug, which is an adept at self concealment, would no sooner strike the bottom of the cage than it would scurry under a stone. The bright-eyed bird would give instant chase, roll the stone to one side and snap up the bug. Then beating it vigorously on the ground several times, it would lay it down and observe it narrowly. Taking it up again and giving it a final thrash or two it proceeded to gulp it down. Cockroaches were evidently not suitable food, for on the second morning after its capture the bird was found dead.

I made it into a skin, which bears a tag stating that it was an adult male, taken on the date and in the locality mentioned, in full autumn plumage, measuring 9.30 in. in length; wing, 6.05 in.; culmen, .85 in.; tarsus .95 in.

At the time the Turnstone came on board we were some 500 miles to the north and east of Midway Island, which was the probable destination of the bird (and where we had observed the same species only a few days previously). Assuming the bird had started from Alaska on its fall southerly migration it was at the time of its capture 1800 miles out from the nearest land, and must have been in continuous flight for more than 40 hours before it sighted our vessel. The fact that it was alone was unusual, as the species commonly migrates in small flocks, of which we saw quite a number while we were performing our journey of over 7000 miles in the Mid-Pacific.—WM. ALANSON BRYAN, *Bishop Museum, Honolulu, H. I.*

Nesting of the Goshawk in Southern New Hampshire.—On the 21st of July, 1902, I came upon a large Accipiter in a clearing in some woods

at Alstead, N. H. The bird screamed loudly and when I began to search for a nest, flew at me twice like a bolt, so that I instinctively put up an elbow to guard my head. I found a nest containing two nearly full-grown young in a smallish pine about forty feet from the ground. On the 27th I saw at 4.45 A. M. a full-grown Goshawk kill and begin to devour a pullet under the window of the farm-house where I lived. I therefore on the 29th shot one of the young hawks from the nest and sent it to Mr. Brewster, who has identified it as a young Goshawk (*Accipiter atricapillus*). Alstead is seventeen miles from Keene, in southern New Hampshire. According to Mr. G. M. Allen this is the most southern breeding record which he can find for this bird in New England. — RALPH HOFFMANN, Belmont, Mass.

Barn Owl on Long Island, N. Y.—On April 23, 1902, Mr. James Forster, Superintendent on Harbeck Place at Islip, L. I., sent me a fine adult American Barn Owl (*Strix pratincola*) to be mounted. The bird was in fine plumage but rather thin in flesh. No further data could be obtained, as Mr. Forster moved away shortly after. — HENRY MOTT BURTIS, Babylon, L. I.

The Short-eared Owl (*Asio accipitrinus*) Taken Far Out at Sea.—The steamer 'Tampico,' which plies between Honolulu and Puget Sound, was boarded, when 680 miles off the mainland, by a Short-eared Owl which had in all probability been lured out to sea in pursuit of shore birds which at this season are in full migration, and, losing its bearings, became a wanderer at the mercy of the high seas. The bird was observed by the mate at 8 P. M. circling about high overhead. After a time it alighted on one of the yards and there remained during the night and the greater part of the following forenoon, when it was captured and placed in a cage. Capt. Ames, regarding the captive as a mascot, and not an ill omen, decided to keep it alive, and ordered it to be carefully fed on a diet of raw meat. Despite all care and attention it died Oct. 10, 1902, one day after the steamer had arrived at Honolulu. Only the wings and feet were preserved. I had the privilege of examining them and, together with the description furnished by the captain, satisfied myself that the bird was none other than an adult *Asio accipitrinus*. The wing measured 12.50, the tarsus about 1.75.

Since it is generally believed that the stock from which the Hawaiian variety of owl was derived came originally from America, the above bit of evidence may be regarded as in a measure confirming that view. Taken in connection with the record of the specimen observed (in October, 1900) by Capt. Johnson of the bark 'Roderick Dhu,' some 500 miles off the Hawaiian Islands, it makes a chain of evidence showing the relationship of the Hawaiian 'Pueo' to the continental form; and at the same time tending strongly to invalidate the subspecies *sandvicensis* of current writers.

That both of the foregoing records were made during the month of October seems more than a mere coincidence. The migration of the owls themselves, or the migration of certain birds which they pursue, may account for it. Be that as it may, the result has been the same and these Islands have received their stock of owls as a result of some such circumstance. — WM. ALANSON BRYAN, *Bishop Museum, Honolulu, H. I.*

Note on *Psittacula modesta* Cabanis. — *Psittacula modesta* Cabanis (Schomburgk. Reisen in British-Guiana, III, 1848, 727) was described from a female taken in British Guiana. This specimen, so far as known to me, has until now remained unique. Count Salvadori in 1891 (Cat. Bds. Brit. Mus., Vol. XX, p. 245, footnote) says: "Graf von Berlepsch, who has recently examined the typical specimen in the Museum of Berlin, has sent me a description of it, which agrees in every respect with the female of *Psittacula sclateri*." Salvin, five years earlier (Ibis, 1886, p. 70) stated, under *Psittacula modesta*: "Graf von Berlepsch is of opinion that *P. sclateri* is referable to this species, *P. modesta* being the older title."

Berlepsch and Hartert, in their recent memoir 'On the Birds of the Orinoco Region' (Nov. Zool., Vol. IX, p. 108, April, 1902) record a male specimen of *P. 'sclateri'* from "La Union on the Caura River," Venezuela, without further comment. This is the most eastern record of *P. sclateri* I have met with, the previous records being from Peru and Ecuador.

I have before me a male specimen taken by Mr. C. C. Young, on the Saramaca River, Dutch Guiana, May 31, 1899. It bears a striking resemblance to a male specimen of *P. sclateri* (No. 6313, Am. Mus. Nat. Hist.), from the Verreaux Collection, labeled "Rio Javarri" (a cotype?). The Guiana bird differs in being of a lighter, more yellowish green below, particularly on the breast, and in the rump being of a brighter shade of ultramarine. That the two forms are specifically the same there seems no reason for doubt, but it seems probable that the Andean form is separable from the Guiana form, although the differences, judging from the specimens here under notice, are not strongly marked, the two forms being recognizable, respectively, as *Psittacula modesta* and *P. modesta sclateri*. — J. A. ALLEN, *American Museum of Natural History, New York City.*

Breeding of the Evening Grosbeak in Captivity. — In the spring of 1901, I was given three Evening Grosbeaks alive, two females and a male, by Mr. Geo. E. Atkinson. These birds were taken at Portage la Prairie, Manitoba, one young female in 1899, and a pair in February, 1900. These birds are typical *Coccothraustes vespertinus*, and had previously shown no disposition to breed, nor did they till the spring of 1902. In March I noticed that the male was not getting on with the females as well as he had previously, being frequently chased about by them; in April he had subdued them, and very soon showed a decided preference for one and so

persecuted the other that I had to remove her to a separate cage. About this time, or a little earlier, I noted a decided brightening of the beaks of both sexes, and the birds became very noisy, though I noticed no attempt at a song on the male's part.

It was the middle of June before I removed the birds to an outside aviary, and they very soon began to build, though slowly at first, the male leading in the work; the foundation of twigs was finished by June 25, and the walls begun. They used a good deal of excelsior, and the rootlets from an old Catbird's nest. The female took charge of the lining, using dried grass in preference to hair. By the 28th the nest was finished, and on July 1 the first egg was laid, the set of four eggs being completed on the 4th. The eggs were laid in the early morning, and the male roosted at night close beside the nest. I removed the set on the 7th, as I was leaving for a two weeks' absence, and could not attend to the young if hatched. From the beginning of the nest building the male increased his attention to the female, putting freshly shelled sunflower seed in her beak and feeding her at every opportunity; if she were sitting the food was carried to her. Before the egg laying both birds were noisy, uttering their rather harsh note incessantly, but as the female became absorbed in caring for the eggs she joined less in the outcry, and the male too became quieter, though both birds joined in protesting if any unusual object became visible from the cage. They were not greatly disturbed by my entering the cage to feed them, though at first the female always left the nest.

The male in his efforts to fix the female's attention assumed a curious posture, very closely resembling that of a young bird when fed. He began by alighting a little below her, preferably on the ground, throwing his head back and uttering a low, rather harsh call, as a nestling does when expecting food; his wings were partly spread and fluttered very rapidly till the black primaries became an outline, causing the snow white of the secondaries to stand out with vividness; otherwise the bird was motionless, with the tail partly spread.

About the 16th of July three eggs of a second set were noticed in the nest; one had disappeared before my return, and on the 30th, one of the two remaining eggs hatched. The young birds' nakedness was emphasized in contrast with the pure white down patches, particularly that on the head. The second egg did not hatch, and I removed it. I was from the first considerably handicapped in the matter of food; the old birds, as the breeding season commenced, gradually changed their food. Sunflower, their favorite seed, was neglected, and they ate a small amount of lettuce and chickweed, a good many strawberries, a little grated carrot and what insects I could get for them; they refused mockingbird food but ate the yolk of hard-boiled eggs. Meal-worms I was unable to get in any number, but earthworms were plentiful and the birds ate them in quantity. The male kept a sharp lookout for any insect that wandered into the cage; ants' eggs were also eaten. I had to use care in gathering

insects, as the trees in the garden had been sprayed and I feared giving them poisoned food.

The old birds partly masticated the worms and fed them to the young bird in the form of pellets. On the 5th of August the young Grosbeak had its eyes open and seemed to be thriving on the food given it. On the 13th I found it had left the nest, and I replaced it. I fancy from this time the old birds began to neglect it, as they started to moult. On the 15th I noticed that the bird was not being properly cared for and I had to replace it in the nest at night. The first time it resumed its place in the nest it was covered by the female, but other nights it sat on the edge of the nest, the parents roosting beside it. It would not consent to being fed by me, and died on the 16th. The old birds were not at all disconcerted at its loss, and I noticed a lessening of the number of worms consumed, and very soon the normal food of seeds was resumed. Later on the birds removed the lining from the nest and finally threw down the remainder. The young bird's call for food was never loud.

Description of young bird, sixteen days old.—Downy neossophtiles still adhered to the tips of feathers. Above smoky brown bases of feathers lighter, giving the back a mottled appearance; top of head darker; forehead creamy brown; bare space in front of eye (lores) black. Underneath creamy brown; under tail-coverts white; tail (two thirds grown) marked as in adult female; wings black; primaries (partly grown) edged on outer side with creamy white; three outermost quills black; secondaries and greater wing-coverts with broad markings of white, the coverts showing a tinge of yellow. Bill greenish horn; feet flesh-color.

Length 114. mm.; wing 64. mm.; tail 19. mm.

Sex, a male as nearly as could be determined; decomposition was very rapid which, together with the age, made the sexing uncertain. Much of the down was lost in skinning, from the same cause.

Description of eggs.—Ground color a clear blue, having distinct spots, almost blotches, of black distributed sparingly about the middle, leaving the smaller end clear, or almost so, the larger end more or less thinly covered with small spots, blotches, and penciled markings of black, accompanied more sparingly by the same markings in a washed or indistinct brown; a few markings of the same about the middle. Measurements: No. 1, 23 × 16 mm.; No. 2, 24 × 17 mm.; No. 3, 26 × 17 mm.

No. 1 had a very weak shell and was empty or nearly so; No. 2, like No. 1 in markings, both eggs having less of the heavy markings about the middle. No. 3 and 4 are like the second set and probably typical.—J. H. FLEMING, *Toronto, Ontario.*

A Further Note on the Subspecies of *Passerculus sandwichensis* inhabiting Labrador.—Mr. J. D. Sornborger lent me some time ago for examination three specimens of *Passerculus* from Labrador. Two are from Okak, and one from Hopedale. As they are not sexed they do not serve to amplify the data in regard to the sexual range of size the race shows.

No. 1451 (52), taken at Hopedale by W. W. Perrett in 1898, in slightly worn plumage, measures, wing, 2.75; tail, 1.86; tarsus, .80; bill, .41 × .42.

No. 1452 (55), taken at Okak by C. Schmitt on July 6, 1896, in unworn plumage, measures, wing, 2.90; tail, 1.95; tarsus, .84; bill, .40 × .26.

No. 1453, taken at Okak by C. Schmitt on June 29, 1897, in worn plumage, measures, wing, 2.56; tail, 1.87; tarsus, .80; bill, .39 × .24.

It was pointed out by Dr. Allen in 1871 (Winter Birds of Florida) that Savanna Sparrows show tremendous individual variation, which is by the way true to a great degree in all Fringillidæ, and he tabulated the measurements of twenty-six breeding specimens from Massachusetts which showed a range of wing measurement from 2.44 to 2.95, only two of which, both males, however, measured over 2.80, and these two, Nos. 5092 and 5096 in the collection of the Museum of Comp. Zoölogy, I have remeasured, and had my measurements checked, and find they now measure 2.90 and 2.62 respectively. Of some hundreds of measurements published by others, and taken from fresh and dried skins, I have yet to find but this one bird from south of Labrador whose wing measurement overlaps sexed Labrador specimens.

The range of wing measurements shown by Labrador specimens which I have examined is as follows:—males, 2.86–2.93; female, 2.65¹. Unsexed, including immature, 2.56 (worn), 2.75–2.90.

I present these facts not to help prove the validness of the race in the face of the A. O. U. Committee's ruling, for recognition of subspecies unfortunately is often, if not generally a matter of personal opinion and judgment, but I present them simply as facts.—REGINALD HEBER HOWE, JR., *Concord, Mass.*

A Winter Record for the Chewink on Long Island, N. Y.—On January 12, 1903, I saw in a small piece of woodland near Long Island City, N. Y., a male Chewink (*Pipilo erythrophthalmus*). It was in full plumage and very active, but permitted me to approach within twenty-five feet of it. I have looked for it since, but have not seen it again. This is the only instance known to me of this species wintering here.—W. F. HENDRICKSON, *Long Island City, N. Y.*

Note on *Sylvia cærulea* Wilson.—In 'The Auk' for January, 1897 (XIV, p. 97), Mr. Ridgway published a short note entitled '*Dendroica cærulea* vs. *Dendroica rara*,' stating that *Sylvia cærulea* Wilson (1810) was unfortunately preoccupied by *Sylvia cærulea* Latham (1790), and that the earliest tenable specific name for the Cerulean Warbler is *rara* (*Sylvia rara*) Wilson, 1811. Of course, here was a clear case, provided the

¹ Specimen kindly loaned by Mr. W. E. Clyde Todd, No. 393, Carnegie Museum, taken at Nain, Aug. 26, 1901, by D. A. Atkinson. Appreciably larger than the average of southern females.

facts were as alleged. In the same number of 'The Auk' (p. 131) the proposed change was endorsed by the A. O. U. Committee on Nomenclature (Eighth Supplement), and is of course adopted in Mr. Ridgway's 'Birds of North and Middle America' (Part II, p. 570).

In 'The Auk' for April, 1899 (XVI, p. 185), Mr. Oberholser called attention to the ruling of the A. O. U. Committee on this case, and showed that in accordance with this ruling the name of the House Finch would be *Carpodacus mexicanus obscurus* (McCall) instead of *C. m. frontalis* (Say), on the ground that Say's name *Fringilla frontalis* (1823) was preoccupied by a *Fringilla frontalis* Vieillot (1817). Mr. Oberholser evidently accepted the Committee's ruling on the *Dendroica caerulea* case with reservation, which he says "involves an interpretation of Canon XXXIII of the A. O. U. Code of Nomenclature to which little if any attention seems to have been called." He continues: "It appears advisable to raise this question, inasmuch as it affects the validity of some other current names; and this the more as in regard to it there seems to be neither unanimity of opinion nor uniformity of practice. Briefly stated, it is this: in considering the tenability of specific names, so far as preoccupation is concerned, shall any account be taken of homonyms which are mere combinations . . . *e.*, not original descriptions? To illustrate: *Motacilla caerulea* of Linnæus, 1766, was called *Sylvia caerulea* by Latham in 1790,—evidently a simple transfer of Linnæus's species to another genus. Now, does this *Sylvia caerulea* of Latham, 1790, preclude the use of *Sylvia caerulea* Wilson, 1810, for another and widely different species, the former being now a *Polioptila*, and the latter a *Dendroica*? Canon XXXIII is apparently quite explicit upon this point, its text being as follows: ' . . . a specific or subspecific name is to be changed when it has been applied to some other species of the same genus, or used previously in combination with the same generic name.' The phrase, 'or used previously in combination with the same generic name,' seems to leave no doubt of its meaning; and a strictly literal interpretation of this clause will treat alike all combinations, whether or not they happen to be those of original descriptions."

I have quoted Mr. Oberholser at length, for the reason that he has stated the case so fully and concisely. The phraseology of that portion of Canon XXXIII quoted by Mr. Oberholser is open to his construction of it, and apparently to no other. Yet that no such ruling was intended by the Committee I am sure; for (if I may be pardoned a seemingly egotistical reminiscence) I may say that I formulated Canon XXXIII, and the explanatory remarks under it, and I am sure that nothing was further from my intention, or that of the Committee, than to enact a provision open to a construction so at variance with general usage in such matters, and with the practices of the Committee, previously (as individuals) and since. The two pages of 'remarks' under Canon XXXIII discuss all phases of the subject except this, and clearly show that the Committee had in mind only homonyms given as names to species described as new,

and not homonyms due to the shuffling of names, or to the reclassification of species under other genera than those under which they were originally described. In fact, any other construction never occurred to me prior to Mr. Oberholser's discussion of the case of *Sylvia cærulea* Wilson.

In regard to the action of the Committee on this case, I must confess, with shame, that I did not look up the matter, and did not know that Latham's *Sylvia cærulea* was simply Linnæus's *Motacilla cærulea*, but supposed Latham's *Sylvia cærulea* was bestowed upon a species considered by him as not previously described.

As I had never before known of any attempt to change a name in ornithology on such grounds I was taken quite unawares, and voted for the change without knowing the real facts in the case. Whether or not the original change was an inadvertence on the part of Mr. Ridgway, he has in other cases followed a directly opposite course. In the case of the House Finch the Committee ruled (Tenth Suppl., Auk, July, 1901, 311) that *Fringilla frontalis* Vieillot, 1817, did not render invalid *Fringilla frontalis* Say, 1824, for the reason that Vieillot's *Fringilla frontalis* was simply the reference of a previous *Loxia frontalis* to the genus *Fringilla*. This case is perfectly parallel to that of *Dendroica cærulea* vs. *D. rara*, which has not heretofore been formally challenged, and thus has not come before the Committee for reconsideration.—J. A. ALLEN, *Am. Mus. Nat. Hist., New York City.*

A Late Fall Record for the Cape May Warbler (*Dendroica tigrina*) in Eastern Massachusetts.—Toward dusk of Oct. 9, 1902, at the time when smaller birds are actively moving about, I noticed a few restless warblers in a Norway maple near my home in Ponkapog, Mass. It was impossible for me to determine the species, as they remained near the top of the tree, but one bird was shot, and proved an immature female Cape May Warbler. I am not positive as to the identity of the other birds in this group, but one other bird which I saw was not *Dendroica tigrina*.—FRED. B. McKECHNIE, *Boston, Mass.*

Late Records for Eastern Massachusetts.—Mr. Louis A. Shaw of Chestnut Hill, Mass., informs me that he shot on the 20th of November, 1902, an adult male Wilson's Warbler (*Wilsonia pusilla*), which he had first noted on the previous day. This is the second record of the capture of this warbler in late autumn in Massachusetts (Hoffmann, Auk, 1900, p. 196). Mr. Shaw also reports seeing Fox Sparrows (*Passerella iliaca*) on December 4, 1902, and a Ruby-crowned Kinglet (*Regulus calendula*) on November 16, 1902.—REGINALD HEBER HOWE, JR., *Concord, Mass.*

A Case of Mistaken Diagnosis.—In August, 1882, while searching in an ancient shell-heap near Northeast Harbor, Mt. Desert Island, Maine, I found what appeared to be the upper mandible of a bird's bill. In the same shell-heap, two years before, I had found part of the tarsus of a

wild turkey (Bull. Nutt. Ornith. Club, Vol. VI, 1881, p. 60). Taking the 'bill' to Mr. Wm. Brewster for identification we found that it resembled most closely the bill of Cabot's Tern, being considerably smaller than the bill of the Royal Tern. It differed, however, from the bills of these and other terns in having a very hard epidermis with a brilliant polish. Feeling considerable doubt as to the identity of the specimen, I showed it to Mr. J. A. Allen, who believed that it was not in his province and suggested that Mr. Walter Faxon might clear up the mystery. Respecting the crustacea, Mr. Faxon, however, promptly replied that it was not a crab's claw. At Mr. Brewster's suggestion I then sent it on to the Smithsonian institution and received the following reply. "Where Mr. Brewster has failed I ought perhaps to be duly cautious in expressing an opinion. Nevertheless a careful examination and comparison of the fragment of a bird's bill you enclose leaves little doubt in my mind as to the bird, which is the Royal Tern (*Sterna regia*). Compare the remnant with the bill of that bird and I think you will agree that in contour the agreement is very close. The cutting edges of the fragment are worn down, and the size otherwise reduced by rubbing, as witness its polish. Due allowance being made for loss of size, and it appears to me that the conclusion expressed above is inevitable . . . I should have added that Mr. — agrees with me." Not satisfied with the identification I let the matter rest and did not, fortunately, rush into print with the interesting note. Two years later, while examining a dogfish, *Squalus americanus*, I was struck with the resemblance of the spine in front of the anterior dorsal fin to my shell-heap bird's bill with its polished epidermis. On comparing them the identity is unquestionable.—CHARLES W. TOWNSEND, M. D., *Boston, Mass.*

RECENT LITERATURE.

Ornithological Magazines. 'The Condor.'—The fourth volume of 'The Condor,'¹ for 1902, consists of about 150 quarto pages of excellent matter relating mainly to Pacific coast ornithology. The January—

¹ The Condor, Bulletin of the Cooper Ornithological Club of California. Published bi-monthly at Santa Clara, Cal., in the interests and as the official organ of the Club. Walter K. Fisher, Editor, Palo Alto, Cal.; Joseph Grinnell, Business Manager, Palo Alto, Cal. Subscription, \$1.00 a year in advance; single copies, 25 cents. Vol. IV, 1902, pp. i-iv, 1-148, with numerous half-tone illustrations.

February number includes 'A Trip to Mono Lake, Ornithological and Otherwise,' by Walter K. Fisher (with half-tone illustrations); 'A Study of Bird Songs,' by John J. Williams; 'The Pinyon Jay,' by H. C. Johnson; 'The Crissal Thrasher in California,' by M. F. Gilman; 'The Louisiana Tanager,' by J. H. Bowles; 'The Wingless Cormorant of the Galapagos,' by Rollo H. Beck; and numerous shorter articles, including local records of interest, editorials, reviews, and the official minutes of the Club.

This number appears with a new cover design, by Walter K. Fisher, "typifying the land of the setting sun and its lordly condor." The adoption of three editorial rules is announced, as follows: (1) The omission of "the possessive s" in common names of animals and plants, unless a contributor expressly requests its retention. It looks a little odd to see 'Clarke Crow,' instead of the familiar 'Clarke's Crow,' and so on with similar names, but "as the name was given in the sense of a dedication, no particular ownership being intended or implied," the innovation has much in its favor, and this form will doubtless seem natural and proper as soon as its novelty wears off. But we can hardly give consent to 'pinyon' and 'canyon,' etc., although this form has recently acquired a wide vogue, even among writers from whom we should expect better things. (2) The use of the single *i*, in the genitive singular of specific and subspecific names — a very convenient rule, and in most cases a more correct form than *ii*, which is often absolutely incorrect; but the change is contrary to the A. O. U. Canon XL, which requires: "The original orthography of a name is to be rigidly preserved, unless a typographical error is evident." This rule is intended to prohibit the emendation of names, particularly generic names, as the context clearly implies, since the ending of specific and subspecific names is necessarily subject to modification to make them agree in gender with the name of the genus. It is perhaps to be regretted that the A. O. U. Committee did not provide for a uniform ending of the genitive singular, so that we might avoid such abominations as *cooperii*, *gairdnerii*, etc., and *auduboni*, *bachmani*, etc., with either one *i* or two *ii*, as the original describer happened to write; and whether he used one *i* or two no one can ever certainly remember and must verify by looking up the case. (3) The printing of the initial letter of common names in lower case, unless personal or geographic. This may do in newspapers and magazines, and in general literature, but for strictly ornithological works or journals it strikes us as in bad taste, in all instances where a particular species is formally mentioned.

The March-April number contains 'The Scissor-tailed Flycatcher,' by Florence Merriam Bailey; 'Some Experiences of 1901,' by P. M. Silloway; 'Hummingbird Experiences from my Note Book,' by Mollie Bryan; 'Winter Observations on the Colorado Desert,' by F. S. Daggett; 'A few Notes on the Nesting of *Trochilus alexandri*,' by R. S. Wueste; also many 'records' and shorter communications, including letters and the official minutes of the Club; and in addition to these several technical papers. The latter include 'Status of *Cyanocitta stelleri carbonacea*

Grinnell,' by Walter K. Fisher, and 'The Monterey Fox Sparrow,' by Joseph Grinnell. Mr. Fisher attempts to defend *carbonacea* against the dictum of the A. O. U. Committee (namely, "Not considered worthy of recognition by name"), and incidentally gives a synopsis of the western jays of the *stelleri* group, illustrating their ranges by a map, and indicating thereon 'areas of intergradation.' While the question is merely one of opinion between Mr. Fisher and the Committee as to whether the degree of differentiation characterizing *carbonacea* is 'worthy of recognition by name,' the paper is an interesting and valuable contribution to our knowledge of just what are the differences between the several races of these jays, their ranges, and areas and manner of intergradation.

Mr. Grinnell believes that Monterey winter specimens of *Passerella* represent the *Fringilla meruloides* of Vigors, whose breeding range is assumed to be the Yakutat Bay region of Alaska, and that Ridgway's *Passerella iliaca annectens* is merely Vigors's *meruloides* renamed.

The May-June number contains: 'Among the Sea Birds of the Oregon Coast,' by William L. Finley; 'Nesting of the Prairie Falcon,' by O. W. Howard; 'Notes on a small collection of Birds from the Island of Maui, Hawaii,' by Richard C. McGregor; 'Unprotected Breeding Grounds,' by Vernon Bailey; 'A Study of Bird Songs' (Chapter II), by John J. Williams; and the usual shorter communications, reviews, and official minutes, with, in addition, two technical papers, as follows: 'The Downy Woodpeckers of California,' by Walter K. Fisher; and 'The Western Barn Swallow,' by Joseph Grinnell. Mr. Fisher separates the "so-called Gairdner Woodpecker from California" from "typical *gairdneri* of Oregon and Washington under the name *Dryobates pubescens turati*, founded on *Picus turati* of Malherbe," on the ground of smaller size and lighter coloration. He gives a synopsis of the Western races of the Downy Woodpecker, of which he recognizes four, namely: (1) *Dryobates pubescens nelsoni* Oberholser, (2) *D. p. leucurus* (Hartlaub = *D. p. homorus* Cabanis = *D. p. oreacus* Batchelder), (3) *D. p. gairdneri* (Aud.), (4) *D. p. turati* (Malherbe).

Mr. Grinnell bestows the name *Hirundo erythrogastra palmeri* on the *H. e. unalaschkensis* W. Palmer (*nec* Gmelin), which he says shows a "significant tendency toward *Hirundo tytleri* Jerdon of Kamtschatka."

The July-August number has 'Incubation Advanced,' by Corydon Chamberlin; 'Vocal Powers of the Yellow-billed Magpie,' by H. R. Noack; 'Some Echoes from the Sierra,' by Chester Bañlow; 'Notes on the Black-throated Gray Warbler,' by C. W. Bowles; 'Nesting of the Little Flammulated Screech Owl on San Gorgonia Mountain,' by M. French Gilman; 'Winter Plumage of the Black-tailed Gnatcatcher,' by H. S. Swarth; 'An Unusual Set of Eggs of Clarke Nutcracker,' by H. C. Johnson; 'Notes on the Verdin,' by M. French Gilman; 'Bird Studies in Strawberry Valley, Aug. 25-Oct. 25, 1902' [sic], by Mrs. C. A. Moody; 'A Domesticated White Pelican' (illustrated); and the usual 'notes,' reviews, editorial matter, correspondence, etc., including an extended

review by 'W. K. F.' of Grinnell's 'Check-List of California Birds.' Also a paper on 'The Southern White-headed Woodpecker,' by Joseph Grinnell, who separates the southern form as *Xenopicus gravirostris*, on the basis of its "much heavier bill and slightly larger size." Although "the differences between *X. albolarvatus* and *X. gravirostris* are slight, and apparently exist only in dimensions, chiefly those of the bill," it is given rank as a full species, and this, notwithstanding the admission that "geographical continuity of ranges possibly exists; but it seems quite as likely that a broad hiatus exists in the vicinity of Tehachapi Pass." This affords another instructive illustration of Mr. Grinnell's criterion for species (cf. Auk, XIX, 1902, p. 406). No measurements are given, but the bills of both forms are illustrated by outline figures.

The September-October number contains 'In Memoriam: Dr. James G. Cooper,' by W. Otto Emerson, with portrait; 'The Ornithological Writings of Dr. J. G. Cooper,' by Joseph Grinnell, consisting of an annotated list of his papers; 'A Letter from Dr. Coues to Dr. Cooper,' dated Feb. 21, 1869; 'Some Observations on the Rufous-crowned Sparrow,' by C. Barlow (illustrated); 'The Redwood Belt of Northwestern California. I. Faunal Peculiarities of the Region,' by Walter K. Fisher; 'Status of the Arizona Goldfinch in California,' by Joseph Grinnell (considered as "only an extreme, and by no means uncommon male plumage of the Arkansas Goldfinch"); 'Nesting of Swainson Hawk,' by C. S. Sharp; 'Audubon Warbler in Washington,' by J. H. Bowles; 'A Study of the Black-headed Grosbeak,' by Anna Head; and editorial comment, 'notes,' etc.

The November-December number contains: 'Birds of the Little Sur River, Monterey County,' by Joseph Grinnell; 'The Holbæll Grebe in Montana,' by P. M. Silloway; 'The Redwood Belt in Northwestern California. II. Land Birds,' by Walter K. Fisher (63 species); 'A List of Birds collected in Norton Sound, Alaska,' by Richard C. McGregor (64 species); 'The Least Tern at San Diego,' [by F. W. Kelsey]. A notice of the death of the Editor of 'The Condor,' Chester Barlow; a letter from Garrett Newkirk, and reviews of several ornithological papers by 'J. G.' and 'W. K. F.' complete the number, which closes the year's volume of 148 pages, illustrated with numerous half-tones.

With the beginning of Volume V the editorship of 'The Condor' was assumed by Mr. Walter K. Fisher, who is well fitted for the position, and under whose supervision we trust that the prosperity and usefulness which has hitherto characterized this excellent journal will be still further increased.

'Bird-Lore.' — As is perhaps well-known, 'Bird Lore' is a strictly non-technical ornithological magazine, even to the uniform exclusion of technical bird names. It is conducted on a high plane as regards literary standing and merit, and its two-fold aim is the promotion of bird study among the people at large and the protection of birds. Typographically, as regards text and illustrations, it is a model of book-making, and its

matter, while non-technical, is scientifically accurate, and its methods for popularizing the study of ornithology are devised with excellent forethought, and provide instruction on broad and well-systematized lines. The editor's experience as an investigator, and lecturer on ornithology, and his enthusiasm as a bird-lover, fit him especially for the task of editing a magazine of the scope and purpose of 'Bird-Lore.' The magazine consists of the following departments: 'General Articles,' of varied scope, mostly contributed by well-known writers on ornithology; 'For Teachers and Students,' mostly editorial matter; 'For Young Observers'; 'Notes from Field and Study'; 'Book News and Reviews,' including notices of the leading ornithological magazines, and of the leading papers and books on both technical and popular ornithology; 'Editorial'; and 'Audubon Department,' edited by Mrs. Mabel Osgood Wright. In the following notice of Volume IV, for 1902,¹ it will be impossible to mention more than a few of the leading articles of each number.

January-February number, general articles: 'Recollections of Elliott Coues,' by D. G. Elliot, with portrait of Coues at twenty-one; 'Coues at his First Army Post,' by Capt. C. A. Curtis, U. S. A. (retired); 'Extract from Journal of Elliott Coues' First Journey to the West' (from Am. Nat., June, 1871); 'The Western Evening Grosbeak,' by Wm. Rogers Lord; 'Bird Clubs in America. I. The Nuttall Club,' by Francis H. Allen (illustrated with a full-page photograph of the Nuttall Club in session); 'Bird-Lore's Advisory Council' (giving names and addresses of the 63 members of the Council); 'How to Name the Birds. Studies of the Families of the Passeres,' by Frank M. Chapman (a series of illustrated papers running through the year); 'The Christmas Bird Census' (reports from numerous correspondents giving lists of birds observed on Christmas day, 1901, at many widely separated localities). 'For Young Observers,' contains a 'prize essay' on the Crow, by Fred T. Morrison (aged 11). Then follows: 'Book News and Reviews,' including reviews of Ridgway's 'Birds of North and Middle America,' Part I, the 'Proceedings of the Nebraska Ornithologists' Union,' Seton's 'Lives of the Hunted,' and Kellogg's 'Elementary Zoölogy,' by the editor, and of 'The Condor,' by 'T. S. P.,' and 'The Osprey,' by 'A. K. F.' A page of short editorials, and 'The Audubon Societies' complete the number, this latter department including 'A Midwinter Meditation,' by Mrs. Wright (pp. 37-39),

¹ Bird-Lore. An Illustrated Bi-monthly Magazine devoted to the Study and Protection of Birds. Edited by Frank M. Chapman. Official Organ of the Audubon Societies. Audubon Department edited by Mabel Osgood Wright. Vol. IV, 1902. The Macmillan Company, Harrisburg, Pa., and New York City. Royal 8vo, pp. i-viii + 1-208. Subscription rates, United States, Canada and Mexico, 20 cents a number, \$1.00 a year; in all countries in the International Postal Union, 25 cents a number, \$1.25 a year, post-paid.

full of pertinent hints to the over-zealous bird-student, in this author's best vein of 'putting things.' This department also contains a 'Directory of State Audubon Societies,' and the 'Fifth Annual Report of the Pennsylvania Audubon Society,' by its secretary, Mrs. Julia Stocton Robins. There are also two half-tone illustrations of a Crow Roost, near Salem, N. J., from photographs by moonlight, taken by C. D. Kellogg.

The foregoing indicates the general character of the contents of each number. Respecting the other five numbers of Vol. IV, only very general reference can be made. March-April number: 'Voices of a New England Marsh,' by William Brewster (pp. 43-56, illustrated); 'Bird Clubs in America. II. The Delaware Valley Club,' by Samuel N. Rhoads (with a photograph of the Club in session); 'English Starling,' by Edith M. Thomas (poem); and the usual instalment of 'How to Name the Birds,' and the usual reviews and other departmental matter, including a noteworthy paper by Mrs. Wright on 'After Legal Protection, What?'

May-June number: 'The Increase of the Chestnut-sided Warbler,' by A. Radclyffe Dugmore (illustrated); 'The Chebec's First Brood,' by Francis H. Herrick (illustrated); 'The Wood Thrush and the Whip-poor-will,' by Garrett Newkirk (poem, illustrated); 'A Grebe Colony,' by Gerard A. Abbott. 'How to Name the Birds' (illustrated), and the usual varied department matter concludes the number, which gives a very full account of the 'First Meeting of the National Committee of the Audubon Societies of the United States,' held in New York City, April 4, 1902.

July-August number: 'Concerning the 'Bad Repute of Whiskey John,' by Fannie Hardy Eckstorm; 'Nighthawk Notes,' by George H. Selleck (illustrated); 'The Veery's Note,' by Ernest Crosby (poem); 'The Nesting of the Yellow-throated Vireo,' by John Hutchins. September-October number: 'The Destructive Effects of a 'Hail-storm upon Bird Life,' by H. McL. Morton, M. D. (at Minneapolis, Minn.); 'A Goldfinch Idyl,' by Ella Gilbert Ives (illustrated); 'A Question of Identity,' editorial, answering the question "What constitutes justifiable grounds for publicly recording the occurrence of an exceedingly rare species, or of a species beyond the limits of its own country?" 'A Debt of Bird Students,' editorial,—their obligations to the American Ornithologists' Union.

November-December number: 'On Journal Keeping,' by Ernest Thompson Seton; 'Flamingoes' Nests,' by Frank M. Chapman, giving views of nests *in situ* of colonies of these birds, and an account, from personal observation, of the Bahama colonies; 'The Weapons of Birds,' by Frederic A. Lucas (illustrated); 'Whiskey John in Colorado,' by Edward R. Warren (illustrated); 'Bird-Lore's Advisory Council,—portraits of William Dutcher, T. Gilbert Pearson, Lynds Jones, and E. W. Nelson; 'How to Study Birds,' by Frank M. Chapman,—the first of a series of illustrated papers, to run through Vol. V, giving instructions to students as to how and what to observe in studying birds. 'The Screech Owl's Valentine,' a poem by Florence A. Van Sant, and the usual field notes, correspondence, reviews, Audubon Society Reports, report of the

Twentieth Congress of the A. O. U., etc., complete the number, which contains also the index to the volume.

'The Wilson Bulletin.'—As a popular magazine of ornithology 'The Wilson Bulletin,' which has just completed the ninth volume of its second series (fourteenth of the whole series), fills a very important place in the journals of its class. The Volume for 1902¹ contains in each number from four to eight general articles, various notes, and a few pages each of editorial matter and reviews of recent books and papers on ornithology. Its scope is defined as "the study of living birds";—their habits, their relations to their surroundings, and their economic relations to man. Naturally it is a strong supporter of bird protection and of popular bird study, especially in the field.

The March number contains: 'The Rock Nuthatch [*Sitta syriaca*] and its Nest,' by H. C. Tracy, with illustrations; 'Food Habits of the Wilson Snipe,' by Benj. T. Gault; 'Notes on the Winter Birds of Arkansas,' by N. Hollister (an annotated list of about 50 species); 'A Columbus [Ohio] Mid-winter Horizon,' by W. Leon Dawson; four pages of 'Notes' relating mostly to Ohio winter birds, by the editor; 'Some Franklinville Fringillines,' by 'Franklin'—a humorous skit on trinomialism; five pages of editorial notes and comment, and six pages of reviews. The June number has: 'Bird Studies in Lorain County, Ohio. Winter Studies,' by Lynds Jones (pp. 37-58, with a map of the county), a summary of ornithological and weather conditions, covering several winters, with pertinent comment; 'A Preliminary List of the Birds of Yakima County, Washington,' by Wm. Leon Dawson (an annotated list of 123 species); 'Incubation Period of the Mockingbird,' by John W. Daniel, Jr.; 'A Bird New for Ohio,' by Lynds Jones (*Mareca penelope*); and five pages of editorial matter, notes, and reviews.

The September number has: 'A Preliminary List of the Birds of Middle Southern Ohio,' by Rev. W. F. Henninger (noticed in 'The Auk,' XX, 1903, p. 83); 'The Spring Migration of 1901,' with an Average Table for Lorain County, Ohio, by R. L. Baird; 'Maryland Birds,' by Rev. J. H. Langille; 'Kirtland's Warbler (*Dendroica kirtlandi*) again in Ohio,' by Lynds Jones (two observed opposite Ashland, Ky., Aug. 28, 1902); and six pages of editorial matter, notes, and reviews.

The December number contains: 'The Cuban Tody (*Todus multicolor*),' by John W. Daniel, Jr., with a half-tone plate; 'Some Bluebird Boxes and Troubles,' by Frank Bruen; 'My Summer Boarders, Season 1902,' by Wm. J. Mills; 'All Day with the Birds, May 7, 1902,' authorship not

¹ The Wilson Bulletin, Published Quarterly by the Wilson Ornithological Chapter of the Agassiz Association. Edited by Lynds Jones, Oberlin, Ohio. Old Series, Vol. XIV; New Series, Vol. IX, 1902. 8vo, pp. 144, with illustrations. Subscription, 50 cents a year. Published on the 15th of March, June, September, and December.

stated; 'Winter Birds,' by Lynds Jones (Scioto and Pike Counties, Ohio, and Bristol, Conn.); 'An Addition to the Birds of Middle Southern Ohio,' (*Larus philadelphia*) by W. F. Henninger; 'A New Year Horizon for All,' by the Editor; 'A New Bird for Ohio, Red-legged Duck (*Anas obscura rubripes*),' by W. F. Henninger; and ten pages of editorial matter, 'general notes,' reviews, and correspondence.

In the December number the editor briefly reviews the history of the nine volumes of 'The Wilson Bulletin,' forming the 'New Series,' in which he says: "From a small beginning our official organ has come to fill a place in the study of our birds which we may well point to with pride. While the development has been slow it has been sure." This is indeed a modest claim, in view of the many valuable papers that in recent years have resulted from the work of various members of the 'Wilson Ornithological Chapter,' and which have found a medium of publication in 'The Wilson Bulletin'; for all of which great credit is due to the efforts and example of the editor, Professor Lynds Jones of Oberlin.—J. A. A.

Jacobs's 'The Story of a Martin Colony.'¹—This is a very interesting and suggestive account of the growth and prosperity of a Purple Martin colony under the author's protecting care during a period of seven years—1896-1902—at Waynesburg, Pennsylvania. In 1896 a twenty-room bird house was erected by the author in his grounds, but to his disappointment only one pair of birds at first availed themselves of these ample accommodations, but later these were joined by four other pairs, of which "the males were all birds of the previous year." But through disturbances by English Sparrows and other mishaps only eleven young birds reached maturity. The next year ten pairs took possession and 35 young birds "were successfully brought out." The third year additional house room was provided by the erection of a new 34-room dormitory. This was occupied by fourteen nesting pairs, and thirteen of the males being birds of the previous year led Mr. Jacobs to believe that all were from the house first erected. The number of young reaching maturity this season was between 90 and 100, several mishaps having interfered with the prosperity of the colony. The wonderful increase in three years prompted the erection of further quarters in 1899, and the colony continued to increase. In 1901 there were 67 pairs of nesting birds, and in 1902 the annual census of the colony, taken May 28, gave the following results: "Rooms occupied, 72; containing eggs, 50; containing both eggs and young, 2; nests undergoing construction, 20; total number of eggs and young on this date, 245."

¹Gleanings | No. II. | The Story of a | Martin Colony. | Illustrated. | — | Observations on a Colony | of Purple Martins. | (Progne Subis.) | — | By J. Warren Jacobs. | — | Waynesburg, Pa., | Independent Book and Job Office. | 1903.—8vo, pp. 24, and 3 half-tone plates. Price, 35 cents.

Mr. Jacobs's brochure contains three half-tone plates, illustrating the houses with their colonies of breeding birds, and the general narrative of the founding and increase of the colony is followed by sections entitled: 'Return from the South,' giving the dates of spring arrivals from 1891 to 1902; 'Nest Building, Deposition and Number of Eggs, and Incubation,' and relates the manner of nest building, the number of eggs to the set, and the length of the period of incubation. The record shows that a total of 1150 eggs were laid during the seven years, and that 850 young reached maturity. 'The Growing Young and the Parents' Care' is the title of a most interesting and instructive chapter, and is followed by: 'Something about Their Food'; 'Their Enemies, Causes of Death, etc.'; 'Off to the South'; 'A Chapter on a Cabinet Series of Their Eggs'; and 'On the Construction of Houses.' The author says: "I have robbed my pets but I do not wear their feathers in my hat!" During the seven years of his fostering care he confesses to having taken eleven sets of eggs for study, of which one had been deserted, and the others were soon followed by the deposition of second sets. The sets vary in number from 3 to 7 eggs to the set, and the size of the eggs is largest in the smallest set, but the smallest average size does not always coincide with the largest number of eggs to the set.

In short, Mr. Jacobs's history of his Martin colony is a valuable contribution to ornithology, as regards both the economic and natural history phases of the subject.—J. A. A.

Pycraft on 'The Significance of the Condition of Young Birds at Birth.'¹—Mr. Pycraft believes that too much stress has been laid by systematists on the widely diverse conditions the young of different groups of birds present at birth, as regards their helplessness or otherwise, and whether clothed or more or less naked; and further claims that the significance of these conditions has been misunderstood. "The real explanation of the matter," he says, "seems rather to turn upon a question of expediency, designed, so to speak, to reduce infant mortality." He claims to present facts "strong enough, on the one hand, to refute the older views, and on the other, to justify the theory, firstly, that birds were originally arboreal and their young nidifugous; secondly, that nidicolous habits and helplessness of young birds are specialized adaptations to an arboreal or gregarious mode of life; and, thirdly, that the young of gallinaceous birds form a link in the chain of evolution of nidifugous habits. The free finger tip and arrested development of the outer quill-feathers point to a prior arboreal habit, whilst the accelerated development of the inner quill-feathers indicates an adaptation to enable the young to escape

¹The Significance of the Condition of the Young at Birth. By W. P. Pycraft, A. L. S., F. Z. S. Popular Science Monthly, Vol. LXII, Dec. 1902, pp. 108-116.

from the epemies surrounding a terrestrial nursery. The third and last stage is represented by the protective coloration, a device which has been almost universally adopted by nidifugous birds, owing to its greater effectiveness."

The Hoatzin is taken as the main clew to the problem. In the structure of its wing "we have a revelation of a phase of bird-life hitherto unsuspected; inasmuch as its peculiar developmental stages, each with its period of functional activity, enable us to interpret the hitherto meaningless and puzzling characters seen in the wing of the fowl and turkey, and their allies. These constitute well-nigh invincible proofs of an earlier and universal arboreal existence, extending back to the time of the earliest known bird archæopteryx. Certainly the skeleton, especially the wing, lends the strongest support to this view. This carries us further back still, and suggests the conclusion that the reptile stock from which the aves are descended was probably also arboreal."

He explains that infant mortality could be reduced (1) by depositing the eggs on the ground, or (2) curtailing the activity of the young, the latter being produced by reducing the amount of food-yolk and inducing an earlier hatching period. But space will not permit us to give a synopsis of his many ingenious suggestions.—J. A. A.

Strong on a Case of Abnormal Plumage.¹—The case here described is that of an abnormal condition in the juvenal plumage of a hybrid between the Common Ring Dove (*Turtur risorius*) and the Red Ring Dove (*T. humilis*) of China, in which the remiges, rectrices and contour feathers were crossed by a subterminal band of paler color, in which the barbules were imperfectly developed. "It is significant," says the author, "that these abnormalities occur at uniform distances from the distal ends of the feathers throughout the whole plumage, and it seems reasonable to conclude that the conditions responsible for the abnormalities were constitutional, and affected the germs of all the feathers simultaneously, though in three different degrees of intensity." The abnormalities are ascribed to malnutrition at the time the juvenal plumage was developing. The character of the malformation is described in detail and illustrated with figures.—J. A. A.

Trowbridge on 'The Relation of Wind to Bird Migration.'²—In 'The Auk' for July, 1895 (XII, pp. 259-270), Mr. Trowbridge published an interesting paper on 'Hawk Flights in Connecticut.' The present paper contains further observations on the migrations of hawks in southern Con-

¹ A Case of Abnormal Plumage. By R. M. Strong. Biol. Bull., Vol. III, No. 6, pp. 289-294, with 6 text figures. Nov. 1902.

² The Relation of Wind to Bird Migration. By C. C. Trowbridge. Amer. Nat., Vol. XXXVI, 1902, pp. 735-753, with 3 maps.

necit, and on the effect of the wind on the migrations of various other species of birds. His conclusions are as follows:

"1. That the migratory movements of hawks are largely determined by the direction of the wind, hawks regularly depending on favorable winds as a help in migration.

"2. That an adverse wind not only retards the migratory movement, but that it almost completely arrests it.

"3. That the migratory period of the various species of hawks lasts for from about fifteen days to one month; during this time the migratory movements take place on days when favorable winds occur.

"4. When the wind is favorable and approximately parallel to the direction of migration, hawks fly and sail at a high altitude and occasionally soar in circles.

"5. When the wind is favorable but nearly perpendicular to the migratory direction (the favorable component being small), hawks fly low and soar continually, often alternating soaring with the wind and flying or sailing against it.

"6. That hawks migrate during the daylight, and, other conditions being the same, they are most abundant in migratory flights when the atmosphere is clear.

"7. When a migratory flight of hawks takes place, continued favorable winds exhaust the number of hawks ready to make the migratory journey, but a second favorable wind about one week later may cause a second flight equal in magnitude to the first.

"8. That a favorable wind, when the favorable component is small, may cause decided deviations of the course of migrating birds from the main migrating direction."

The author believes that other birds take advantage of favorable winds in migrating, and that in the case of the Falconidæ the habit has become well formed. Several tables are given showing the influence of weather conditions upon the flights of migrating hawks in southern Connecticut. A series of maps of the coast-line of the New England States and New Jersey is given showing the lines of flight of hawks in both autumn and spring in relation to the direction of the wind.—J. A. A.

Richmond on Birds from the Andaman and Nicobar Islands.¹—The collection contains 520 specimens, representing nearly 100 species, collected mostly at the Great and Little Nicobar Islands by Dr. W. L. Abbott. Nine species are described as new. Besides giving the collectors' valuable field notes, measurements and critical remarks are added by Dr.

¹ Birds collected by Dr. W. L. Abbott and Mr. C. B. Kloss in the Andaman and Nicobar Islands. By Charles W. Richmond, Assistant Curator, Division of Birds, U. S. National Museum. *Proc. U. S. Nat. Mus.*, Vol. XXV, No. 1288, pp. 287-314, 1902.

Richmond. The generic name *Callocalia* Gray, 1840, is shown to be antedated by *Salanga* I. Geoffr., 1837.—J. A. A.

Richmond on Birds from the Coast and Islands of Northwest Sumatra.¹—This collection, consisting of about 450 specimens, representing about 140 species, was also made by Dr. W. L. Abbott, whose untiring efforts have done so much in recent years to enrich the collections of birds and mammals in the U. S. National Museum. The present collection was made during a five months' cruise along the northwest coast of Sumatra and adjacent islands. Nineteen of the species Dr. Richmond has described as new, including 11 in the present paper and 8 in a previously published paper (*cf.* Proc. Biol. Soc. Washington, XV, 1902, pp. 187-190). The list is briefly annotated from Dr. Abbott's notes, and Dr. Richmond supplies here and there considerable important technical comment.—J. A. A.

Fisher on a New Tern from Necker Island.²—As one of the fruits of the cruise last year of the U. S. Fish Commission steamer 'Albatross', engaged in deep-sea dredging around the Hawaiian Islands, Mr. Walter K. Fisher has described a new tern as *Procelsterna saxatalis*, first obtained on Necker Island, but also observed at French Frigate Shoals and Bird Island, of the Leeward Islands, Hawaiian group. It was found breeding at these islands in considerable numbers, and eggs and young were obtained. It is nearly related to two other members of the genus found in southern seas.—J. A. A.

Bonhote's 'Field Notes on some Bahama Birds.'—In volumes VIII and IX of the 'Avicultural Magazine,'³ Mr. J. L. Bonhote gives a very pleasantly written account of his observations on the birds of the Bahamas. He divides the country into "four classes" (1) the thick bush or 'coppet,' (2) the 'Pine Barrens,' (3) the open swamps or lagoons, and (4) the outlying rocks or 'Cays,' each of which is treated separately with its characteristic birds. His paper is thus not a systematic, faunal list,

¹ Birds collected by Dr. W. L. Abbott on the Coast and Islands of Northwest Sumatra. By Charles W. Richmond, Assistant Curator, Division of Birds. Proc. U. S. Nat. Mus., Vol. XXVI, No. 1318, pp. 485-542. Feb., 1903.

² A New *Procelsterna* from the Leeward Islands, Hawaiian Group. By Walter K. Fisher. Proc. U. S. Nat. Mus., Vol. XXVI, No. 1322, pp. 559-563. Feb., 1903.

³ Field Notes on some Bahama Birds. By J. L. Bonhote, M. A., F. Z. S., M. B. O. U. Reprinted and repaged from the 'Avicultural Magazine,' Vol. VIII, pp. 278-288, Vol. IX, pp. 19-24, 54-62, 87-95; 8vo, pp. 55, and 6 half-tone plates.

but a popular account prepared expressly to interest the general reader. His observations are, however, interesting and valuable to the ornithologist. All of the principal species are passed in review, some of them briefly, while others are noticed at some length. The six half-tone plates illustrate chiefly the nesting habits of the Noddy and Sooty Terns, although two are devoted to the Fishhawk.—J. A. A.

Mrs. Wheelock's 'Nestlings of Forest and Marsh.'¹—This pleasantly written book "claims to be as accurate as careful observation in the field, with and without a glass, can make it," and has been written from the author's own notes "gleaned during several years of study of the nesting habits of our familiar birds, and some not quite so well known." The observations here recorded appear to have been made chiefly in the lake shore region near Chicago, and include studies of the nesting habits of the Meadowlark, Bluebird, Red-winged Blackbird, Yellow-headed Blackbird, Robin, Cr w, Ph be, Wood Pewee, Baltimore Oriole, Chickadee, Marsh Wrens, Sora Rail, Spotted Sandpiper, Killdeer Plover, Bob-white, Woodpeckers, Swallows, Blue Jay, etc. Mrs. Wheelock is evidently an enthusiastic and painstaking observer, and has managed to record the ways and motives of her feathered neighbors with a minuteness that suggests here and there the aid of a helpful imagination. The numerous half-tone illustrations of nests and nestlings add greatly to the realism of her graphically related experiences in the field, and combine with the text to render her book especially attractive as a popular contribution to the life-histories of some of our commoner birds.—J. A. A.

Proceedings of the Delaware Valley Ornithological Club.¹—The second number of 'Cassinia'² consists of the 'Abstract of Proceedings' of the Club for the year 1902, preceded by the principal papers read before the Club during the year. The frontispiece is a portrait of Edward Harris, illustrating a biographical sketch by George Spencer Trotter, of this friend and patron of science in the early days of American ornithology. He was especially a friend of Audubon, accompanying him on his tour through the South Atlantic and Gulf States in 1837, and on his Missouri River Expedition in 1843. Although he published little, he appears to have played an important part in the early history of ornithological work in this country. He was born at Moorestown, N. J., Sept. 6, 1799, where he died in 1863. He is commemorated in ornithological literature in the names of several North American birds named in his honor by Audubon, as *Picus harrissi*, *Falco harrisi*, Harris's Sparrow, etc.

¹ Nestlings | of | Forest and Marsh | By | Irene Grosvenor Wheelock | [Vignette] With Twelve Full-Page Photogravures and many Illustrations in the | text from Original Photographs from Nature by | Harry B. Wheelock | Chicago | A. C. McClurg & Co. | 1902—12mo, pp. 257.

² Cassinia: A Bird Annual. Proceedings of the Delaware Valley Ornithological Club of Philadelphia, No. VI, 1902. Roy. 8vo, pp. 66. Feb. 1903.

Other papers are 'Henslow's Bunting (*Ammodramus henslowi*) in New Jersey,' by Samuel N. Rhoads; 'The Unusual Flight of White Herons [in New Jersey] in 1902,' by William B. Evans; 'Notes on the Germantown Grackle Roost,' by Arthur Cope Emlen; 'The Heart of the New Jersey Pine Barrens,' by Herbert L. Coggins; 'Report on the Spring Migration of 1902,' by Witmer Stone. Following the 'Abstract of Proceedings,' and 'Bird Club Notes,' is a list of the officers and members.—J. A. A.

Publications Received.—Berlepsch, Hans Graf von. (1) Mitteilungen über die von den Gebrüdern G. und O. Garlepp in 'Bolivia gesammelten Vögel und Beschreibungen neuer Arten. (Journ. f. Orn., 1901, pp. 81-98.) (2) Beschreibung zweier neuer Dröselformen aus Südamerika. (Ornithol. Monatsk., 1902, pp. 69-71.)

Berlepsch, Graf Hans von, and Jean Stolzmann. (Proc. Zool. Soc. London, 1902, pp. 18-60.)

Bignell, Effie. My Woodland Intimates. 12mo. The Baker and Taylor Co., New York. \$1.00.

Bonhote, J. L. Field Notes on Some Bahama Birds. (Avicult. Mag., Vols. VIII and IX; also separate, pp. 33.)

Buterlin, S. A. Limicolæ of the Russian Empire. Part I, pp. 1-67, pll. i-xi, colored. (In Russian.)

Dresser, H. E. The Reproduction of Colours by Photography. (Nature, Dec. 11, 1902, with colored plate.)

Dubois, Alphonse. Synopsis Avium, fasc. x-xii, 1902.

Fisher, Walter K. A New *Procelsterna* from the Leeward Islands, Hawaiian Group. (Proc. U. S. Nat. Mus., Vol. XXVI, pp. 559-563.)

Howe, Reginald Heber, Jr. A North American Faunal Index to the 'Ornithologist and Oologist.' (Contr. to N. Am. Orn., Vol. I, pp. 33-38.)

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Riley, J. H. Description of a New Quail-Dove from the West Indies. (Proc. Biol. Soc. Wash., Vol. XVI, pp. 13, 14, Feb. 21, 1903.)

Richmond, Charles W. (1) Note on *Pinaroloxias inornata* (Gould). (Proc. Biol. Soc. Wash., Vol. XV, pp. 247, 248, Dec. 16, 1902.) (2) Birds collected by Dr. W. L. Abbott on the Coast and Islands of Northwest Sumatra. (Proc. U. S. Nat. Mus., Vol. XXVI, pp. 485-524.)

Sclater, P. L. List of Parrots represented in the Society's Collection in January, 1902, with Remarks on Some of the Rarer Species. (Proc. Zool. Soc. Lond., 1902, pp. 166-171, pll. xviii, xix.)

Seth-Smith, D. Parrakeets, being a Practical Handbook to those Species kept in Captivity. Parts 1-3, 1902. 8vo, with colored plates. R. H. Porter, London. Price 6s net per part.

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CORRESPONDENCE.

Some Suggestions.

EDITORS OF 'THE AUK':—

Dear Sirs:—I take this occasion to voice the feelings of many amateur ornithologists who are members of the A. O. U. We all have the keenest sympathy for the success of the cause for which 'The Auk' stands as the organ of the A. O. U., and we fully realize that the highest advancement of American ornithology can be accomplished only through and by professional men, and that 'The Auk' must and should be their favored organ.

But we further believe that the continued success of 'The Auk' and Union depends upon the moral and financial support which they receive from the amateur members of the A. O. U. In many, maybe in most instances, this support must be dependent upon the contents of 'The Auk.' Many of the readers of 'The Auk'—and I am one of them—are only secondarily interested in technical and local faunal articles. Their leisure opportunities, and perhaps their inclinations, are sufficient to grasp only the general features of systematic and faunal ornithology. On the other hand they are intensely interested in general and field ornithology, and peruse and study those matters which relate to the habits and life histories of the feathered kind with the keenest enjoyment. Such reading appeals to their sympathy and feelings, enlivens and deepens their interest, and may lead them on to the study of scientific ornithology, which is in most instances regarded at first as dry and uninteresting.

I feel assured that if 'The Auk' contained more articles of the nature of Bent's late article on North Dakota Anatidæ, or Peabody's on Le Conte's Sparrow—articles interesting to the student as well as to the professional—the membership of the A. O. U. would be measurably increased, the funds available for publishing 'The Auk' would be greater, and its value both to the scientist and to the amateur would be enhanced.

Very truly yours,

J. C. KNOX,
Jackson, Minn.

Jan. 17, 1903.

[The above letter is in line with others received from time to time by the Editors of 'The Auk,' offering suggestions for its improvement from the standpoint of the lay reader. But Mr. Knox's letter is exceptional in its courteous tone, and in the reasonableness of its suggestions. That the matter may be better understood, it seems well to present in this connection a few words of editorial comment.

'The Auk' is, first of all, the organ of the American Ornithologist's Union, which is primarily an association of professional ornithologists, or

advanced workers in ornithology, whose purpose of organization was to promote community of interest, and coöperation among the leaders of the science, and to secure a medium of intercommunication, and for the publication of the results of their investigations. Secondly, the purpose of the Union was to secure the affiliation of all American bird students,—to bring the amateurs into touch with the professionals, in the hope that their interest in bird study would thereby be fostered and their efforts be in a measure favorably guided by being brought into contact with the more experienced workers. For this reason the lay element was invited to accept enrollment in the Union, to attend its annual congresses, to present papers and otherwise participate in the scientific proceedings, and especially to form acquaintances and associations that would prove pleasant and helpful. Such has been, we believe, to as large an extent as could be reasonably expected, the outcome of the founding of the Union. Its membership is, however, so widely scattered that, although the congresses are held alternately in the larger eastern cities, the social feature of the organization is necessarily somewhat limited.

In regard to 'The Auk,' its function is, first of all, that of a medium of publication for the working ornithologists, and holds the position of the 'Proceedings' or 'Annals' of a scientific society. It pays nothing for the articles contributed to its pages, and rarely solicits contributions. More matter is offered for publication than can be accepted, and the editorial function as to choice of material is limited to excluding what seems the least desirable. It thus differs notably from the ordinary literary magazine, which pays for its contributions and whose editorial management is supposed to cater to the public needs or taste.

Mr. Knox refers to certain papers as being especially desirable and stimulating to the clientèle for whom he assumes to speak. The editors of 'The Auk' never reject articles of this character; they are only too glad to receive this class of papers. The rejected matter is almost wholly of the class to which Mr. Knox specifically objects. The editors of 'The Auk' cannot publish for the entertainment of its readers what does not come to their hands. Technical papers, containing the results of special research by members of the Union, should, in the nature of the case, be promptly accepted; faunal papers, which are a real contribution to knowledge, are not lightly to be passed by; but if they relate to comparatively well known regions, or contain little that is new, they are rated at once as unavailable. Finally, it is the aim of the editorial staff of 'The Auk' to cater especially to the popular side of ornithology, to furnish to the amateur readers papers that they will enjoy and find profitable. The technical side will always take care of itself; the demand for space for such contributions is always greater than the supply, and it is papers of this character that get the cold shoulder and not those of a popular character, provided of course that they contain something worthy of record.—Eds.]

Vernacular Names of Birds.

EDITORS OF 'THE AUK'.

Dear Sirs:—The subject of vernacular names of birds is not of supreme importance in ornithology, but, since it has been opened, I hope I may be allowed to make a little suggestion. First let me say, though I am well aware that Dr. Allen's views need no endorsement from me, that I am in entire accord with them in the matter of hyphenating, and this in spite of a tendency toward purism which should perhaps lead me to stand by the dictionaries and Dr. Doran. It has always seemed to me that the words 'song,' 'tree,' 'swamp,' etc., as used in connection with the names of sparrows are as truly adjectival in sense as if they were actual adjectives instead of nouns, and I can see no good reason why the combinations should be differentiated in form from such names as 'chipping sparrow' and 'white-throated sparrow.' The case of 'quail-dove' is different, of course, as are those of 'water-thrush' and 'meadow-lark.' Personally I should have preferred 'meadow-lark,' 'night-hawk,' etc., reserving the single-word form for the more familiar compounds of the word 'bird,' but I cheerfully follow the A. O. U. in vernacular as well as in the scientific names. (There is just one bit of sentimentalism in the list, which I cannot countenance: I refuse to call a snow bunting a 'snowflake.' I also prefer, in conversation, to speak of white-bellied instead 'white-breasted' nuthatches.)

But, to come to the point of this communication, it seems to me that a much more serious difficulty than that of the hyphens is the lack of qualifying or what I may call 'specific' and 'subspecific' adjectives for the names of certain birds like the chickadee, the horned lark, the redpoll, and the towhee. Why should we not have full vernacular names for *Parus atricapillus*, *Otocoris alpestris*, *Acanthis linaria*, *Pipilo erythrophthalmus*, etc., which will tell exactly what species and subspecies is referred to in any given case without the help of the scientific name? We should not always have to use the complete name, of course, but it would be convenient to have one to use when needed and one that is sanctioned by the Union. I hope that this matter may be considered by the Committee on Nomenclature when the next edition of the Check-List is prepared.

FRANCIS H. ALLEN.

Boston, Mass.

A Rare Work on American Ornithology.

EDITORS OF 'THE AUK':—

Dear Sirs:—Captain Thomas Brown's folio 'Illustrations of the American Ornithology of Wilson and Bonaparte' is such a scarce book that you may deem it worthy of a notice in your pages. By a careful

search I have been able to trace only three copies of it. One of these is in the library of the Zoölogical Society of London, another in the possession of Professor Alfred Newton, the third (a very imperfect copy) in a private library in Tarrytown, N. Y. The latter is the one that was twice sold at auction in New York City, Nov. 23, 1896, and Feb. 23, 1897.

In 1831 the first European edition of Wilson and Bonaparte's 'American Ornithology' was published in Edinburgh, without plates, forming four volumes of Constable's 'Miscellany' and edited by Professor Jameson. That the 'Illustrations' of Capt. Brown were originally intended to accompany the text of the Constable 'Miscellany' edition is clearly shown by contemporary notices. In a notice of Jameson's edition in the 'Edinburgh New Philosophical Journal' (Jameson's), July-Sept., 1831, p. 409, we read: "As a proof of the interest the work [Jameson's edition] is exciting, we may add, that the plates of the original works are re-engraving and publishing. *Three editions* are now in progress, one in folio, another in royal octavo, a third the size of the Edinburgh [Jameson's] edition of Wilson and Bonaparte, and as stated in the advertisement, intended to bind up with that work." In an advertisement dated April, 1831, issued with some copies of the first volume of Jameson's Wilson & Bonaparte, as well as in a critical notice of the first part of Capt. Brown's 'Illustrations' which appeared in the 'London Literary Gazette' for October 8, 1831, the 'Illustrations' are spoken of as forming a companion to the letter-press of Jameson's edition of Wilson & Bonaparte. From the Constable advertisement we further learn that the first part of the 'Illustrations' was published in April, 1831, and consisted of five plates; price, medium folio, colored, 15 s.; plain, 10 s.; a few in elephant folio, colored, one guinea. "To be completed in ten parts, each containing . . . five plates." The work finally exceeded by much the limits at first assigned to it, the plates amounting to 124 at their completion in 1835, when an engraved title-page was issued, which I transcribe from the copy in the library of the Zoölogical Society:

"Illustrations | of the | American Ornithology | of | Alexander Wilson
| and | Charles Lucian Bonaparte | Prince of Musignano | With the addition
of | Numerous recently discovered Species | and Representations of |
The Whole Sylva | of | North America. | By | Captain Thomas Brown.
| FLS. MWS. MKS. MPS. | Late President of the Royal Physical Society.
| &c. &c. &c. | Edinburgh. | Frazer & Co. 54 North Bridge | William
Curry, Junr. & Co. Dublin | & Smith, Elder & Co. 65 Cornhill | London.
| MDCCCXXXV. | Designed & engraved by James Turvey." Folio.

Collation: Engraved title-leaf, engraved dedication-leaf, pp. i-iii [Systematic Index], pll. col. I-CXXIV. Plate XCVI. is erroneously numbered CVI. (rectified in the Index) and 68 of the plates have numbers gummed on after printing (these also are properly allocated in the Index).

The Tarrytown copy, which I have also had the privilege of seeing, although very defective (lacking 37 plates, title-page, dedication and index), is interesting inasmuch as it retains one of the original brown

paper wrappers, probably belonging to Part I. The title as printed on this wrapper differs from the definitive engraved title, and reads as follows:

"Illustrations | of the | American Ornithology | of | Alexander Wilson, | and Charles Lucian Bonaparte; | with the addition of numerous recently discovered species. | And including | representations of the principal insects, | forest trees, and fruits of America. | Drawn, engraved, and coloured | under the superintendence of | Captain Thomas Brown, F. L. S. M. W. S. &c. | President of the Royal Physical Society. | Edinburgh: | published by Henry Constable; | Hurst, Chance, & Co. and Moon, Boys, & Graves, London; | John Cumming, Dublin. | 1831."

Brown's book is not in any true sense an edition of Wilson and Bonaparte. It is composed partly of original figures, but in a large measure it is compiled from the works of Wilson, Bonaparte, Audubon, Richardson and Swainson, and Jardine and Selby. As specimens of the engraver's art these plates exemplify the best work of the then leading engravers of Edinburgh, such as W. H. Lizars (who engraved Selby's plates and the earliest of Audubon's), E. Mitchell, R. Scott, Jas. Johnstone, John Miller, Samuel Milne, etc. In copying, however, the artist often lost the spirit of the originals, and in many of the new figures, which must of necessity have been drawn from stuffed birds, ignorance of the life attitudes of the subjects is often painfully apparent. In one of the early plates the perching of an Arctic Owl on a Magnolia tree was probably a bit of unconscious humor on the part of the artist who designed the plate.

In 1834, a year before the completion of this series of plates, Capt. Brown published the Game Bird plates as a separate work, with a title-page engraved specially for it by Turvey, which reads as follows:

"Illustrations | of the | Game Birds | of | North America | Chiefly the size of Nature | By | Captain Thomas Brown | F. L. S. M. W. S. M. K. S., M. P. S. | Late President of the Royal Physical Society, | &c. &c. &c. | Edinburgh | Frazer & Co. 54 North Bridge; | Wm. Curry, Junr. & Co. Dublin; | John Smith & Son Glasgow; | & Smith Elder & Co. 65 Cornhill. | London | MDCCCXXXIV. Designed and engraved by James Turvey." 16 pll. col., folio (21½ × 16½ in.).

I found a copy of this book, of which I can find no mention in any bibliography or library- or sale-catalogue, in a book-shop in Birmingham last year. It consists, as I have said, of the Game Bird plates of the larger work, sixteen plates, unnumbered, being plates 69-83 and 102, of the larger work. In these plates the birds only are colored, whereas in the copies of the larger work that I have seen, the accessories (plants, insects, and backgrounds) are colored also. This set of sixteen plates includes figures of several of our western birds which are interesting as being among the earliest published portraits of those species. From the following account of the Game Bird plates one can form some notion of the character of the more extended work; *ex pede Herculem*:

Pl. I. [LXXV. of the larger work]. "*Tetrao cupido*" [*Tympanuchus americanus* (Reich.)]. Fig. 1, ♂, after Wilson; Fig. 2, ♀, original. The habitat is given, "*State of New York*." Since Wilson's figure was made from a Kentucky specimen, it may be that the female (Fig. 2) was drawn from a Long Island Heath Hen (*T. cupido*), which would be very interesting, if true. I believe De Kay's rude figure (*Birds of New York*, Pl. 77, fig. 175) is the only picture of a Heath Hen not from Martha's Vineyard, besides the original figure of Catesby.

Pl. II. [LXXIV.] Fig. 1, "*Tetrao umbellus*" [*Bonasa umbellus* (Linn.)], ♂, after Wilson; Fig. 2, "*Tetrao phasianellus*" [*Pediæcetes p. columbianus* (Ord)], ♀, after Bonaparte.

Pl. III. [LXXVII.]. "*Tetrao canadensis*." [Fig. 1, ♂, *Canachites franklinii* (Dougl.); Fig. 2, ♀, *Canachites canadensis* (Linn.)]. Both after Bonaparte.

Pl. IV. [LXXVIII.]. "*Tetrao franklinii*" [*Canachites franklinii* (Dougl.)]. Fig. 1, ♂, perhaps altered from Rich. & Swains., *F. B. A.*, Pl. 61; Fig. 2, ♀, original.

Pl. V. [LXXXVI.]. "*Tetrao obscurus*" [*Dendragapus obscurus* (Say)]. Fig. 1, ♂, orig.; Fig. 2, ♀, after Bonaparte.

Pl. VI. [LXXXIX.]. "*Tetrao richardsonii*" [*Dendragapus obscurus richardsonii* (Dougl.)]. Fig. 1, ♂; Fig. 2, ♀. Original. A fine plate designed by Jos. B. Kidd, a young landscape artist of Edinburgh, a friend of Audubon. Engraved by R. Scott.

Pl. VII. [LXXX.]. "*Tetrao urophasianus*" [*Centrocercus urophasianus* (Bonap.)]. Fig. 1, ♂, orig.; Fig. 2, ♀, after Bonaparte.

Pl. VIII. [LXXXI.]. "*Lagopus saliceti*" [*Lagopus lagopus* (Linn.)]. Fig. 1, ♂, spring plumage; Fig. 2, ♂, summer plumage; Fig. 3, ♀, winter plumage. Original.

Pl. IX. [LXXXII.]. Fig. 1, *Lagopus leucurus* Sw. & Rich., adapted from Sw. & Rich., *F. B. A.*, Pl. 63; Fig. 2, *Lagopus rupestris* (Gmel.), orig.

Pl. X. [LXXXIII.]. "*Lagopus mutus*" [*Lagopus rupestris* (Gmel.)]. Fig. 1, ♂, winter; Fig. 2, ♀, summer. "Inhabits Winter Island." Original.

Pl. XI. [LXIX.]. "*Perdix virginiana*" [*Colinus virginianus* (Linn.)]. Fig. 1, ♂, after Wilson; Fig. 2, ♀, orig.

Pl. XII. [LXXII.]. Fig. 1, "*Ortyx capistrata*" [*Odontophorus capueira* (Spix)], "drawn by Captain Brown," evidently from the type specimen of *Ortyx capistratus* Jard. & Selby (= *Odontophorus capueira*), in the collection of Sir Wm. Jardine, purchased by him from a collection of skins sold in Edinburgh (Jardine & Selby, *Ill. Orn.*, I. Pl. 38, 1828); Fig. 2, "*Ortyx neoxenus*" [young ♂, or ♀, of *Eupsychortyx cristatus* (Linn.)], outline seemingly copied from the little wood-cut in Bennett's "*Gardens and Menagerie of the Zoological Society*," Vol. II, p. 311, 1831, though the details must have been filled in from a specimen, I should suppose. *Ortyx neoxenus* Vigors, the types of which were in the gardens of the

Zoölogical Society of London, were identified by Gould as *Eupsychortyx cristatus* (Linn.).

Pl. XIII. [LXX.]. Fig. 1, "*Ortyx macroura*" [*Dendrortyx macrurus* (Jard. & Selby)], a representation of the type in coll. Jardine (Jardine & Selby, Ill. Orn., I. Pl. 49, 1828), probably adapted from the plate in Jardine & Selby; Fig. 2, "*Ortyx montezumæ*" [*Cyrtonyx montezumæ* (Vig.)], after Jardine & Selby, Vol. III. Pl. 126, 1833, but altered.

Pl. XIV. [LXXI.]. Fig. 1, "*Ortyx douglasii*" [*Lophortyx elegans* (Less.)]; Fig. 2, "*Ortyx californica*" [*Lophortyx californicus* (Shaw)], ♂; Fig. 3, do., ♀. Original.

Pl. XV. [LXXIII.]. "*Ortyx picta*" [*Oreortyx pictus plumifer* Gould]). Fig. 1, ♂; Fig. 2, ♀ [?]. Original. The earliest pictorial representation of the species, so far as I know, but unfortunately a wretched performance. The so-called female, particularly, looks as if it might have been constructed from Douglas's remarkable description of the female of *Ortyx pictus*.

Pl. XVI. [CII.]. Fig. 1, "*Scolopax noveboracensis*" [*Macrorhamphus griseus* (Gmel.)]; Fig. 2, "*Scolopax wilsonii*" [*Gallinago delicata* Ord]; Fig. 3, "*Scolopax minor*" [*Philohela minor* (Gmel.)]. All after Wilson.

That a very small edition of Brown's work was published is evinced by its excessive rarity at the present time. The book was not of a character to meet any real want, and moreover it entered into competition with the great work of Audubon's, then publishing. An entry in Audubon's journal in October, 1830, goes far toward explaining the failure of Capt. Brown's undertaking, and at the same time brings out in bright relief the indefatigable industry and colossal self-confidence of Audubon:

"A few days after I began writing on the Biography, it was known in Edinburgh that I had arrived, and Professors Jameson, Graham, and others whom I had known, called on me; and I found at the 'fourteenth hour,' that no less than three editions of 'Wilson's Ornithology' were about to be published, one by Jameson, one by Sir W. Jardine, and another by a Mr. Brown. Most persons would probably have been discouraged by this information, but it only had a good effect on me, because since I have been in England I have studied the character of Englishmen as carefully as I studied the birds in America. And I know full well, that in England novelty is always in demand, and that if a thing is well known it will not receive much support. Wilson has had his day, thought I to myself, and now is my time. I will write, and I will hope to be read; and not only so, but I will push my publication with such unremitting vigour, that my book shall come before the public before Wilson's can be got out.

"Writing now became the order of the day. I sat at it as soon as I awoke in the morning, and continued the whole long day, and so full was my mind of birds and their habits, that in my sleep I continually dreamed of birds. I found Mr. McGillivray equally industrious, for although he did not rise so early in the morning as I did, he wrote much

later at night. . . .; and so the manuscripts went on increasing in bulk, like the rising of a stream after abundant rains, and before three months had passed the first volume was finished. . . .

"*March* 13, 1831. My book is now on the eve of being presented to the world. The printing will be completed in a few days."¹

What became of the royal octavo plates and of the 18° series intended to bind up with the little Jameson edition of Wilson and Bonaparte, both of which were announced in the 'Edinburgh New Philosophical Journal' for 1831, as cited above? I think it probable that the former were appropriated by Sir William Jardine, that they were in fact the plates which adorn his octavo edition of Wilson and Bonaparte, which appeared in 1832. Otherwise they are unaccounted for. If, too, one examines even an untrimmed copy of Jardine's original issue, he will perceive that the plates are cut down nearly to the quick, indeed quite to the plate mark; as if originally designed for a *royal* octavo atlas and doomed by an after-thought to be the accompaniment of a *small* octavo text.

The fate of the 18° plates appears to have been even more disastrous than that of the folio series edited by Capt. Brown. After diligent enquiry I find but two indications of the existence of any of these plates at the present time. Some years ago Professor Newton furnished Dr. Coues with an account of the first part of a set of little plates illustrating Wilson and Bonaparte's Ornithology, issued by the publishers of Jameson's edition and uniform in size with that edition. The title as given by Coues ('Birds Col. Valley,' p. 600) was as follows:

"American Ornithology. | Illustrations | of | American Ornithology; | reduced from the | original work of Alexander Wilson. | London: | published by William Spooner, 259, Regent Street, | Oxford Street; | Hurst, Chance, and Co., 65 St. Paul's Church-Yard; | and Constable and Co., Edinburgh. | [No date.] 16mo? 18mo? (say 4 X 6 inches). No. 1, containing 8 plates."

Finally, Mr. Witmer Stone has a copy of Jameson's edition of Wilson and Bonaparte which contains nineteen colored plates (3½ X 5¼ in.) scattered through the first two of the four volumes. That these plates were made for the book in which they are found is proved by the fact that many of them bear the appropriate page-references to the text of that edition. I have little doubt that they represent a fuller set of the series Professor Newton saw, and that they belong to the small 18° edition announced in the 'New Edinburgh Philosophical Journal' in 1831.

Yours very truly,

WALTER FAXON,
Cambridge, Mass.

Feb. 17, 1903.

¹ The Life and Adventures of John James Audubon, the Naturalist. Edited, from materials supplied by his Widow, by Robert Buchanan. London, 1868. Pp. 172, 173.

NOTES AND NEWS.

THOMAS McILWRAITH, a Fellow and one of the Founders of the American Ornithologist's Union, died at his home in Hamilton, Ontario, on January 31, 1903, in his 79th year. He was born in Newton, Ayr, Scotland, 25th of December, 1824, and in 1853 settled in Hamilton, Ontario, where he became a prominent and successful business man, retiring from active business about ten years ago. From early boyhood he was an ardent lover of nature and later became especially interested in birds. As early as 1860 he had become a local authority on the birds occurring about Hamilton, notices of which he published in the 'Canadian Naturalist' in 1860 and 1861 (Vol. V, pp. 387-396, and Vol. VI, pp. 6-18, 129-198).

In 1866 appeared his carefully annotated 'List of Birds observed near Hamilton, Canada West' (Proc. Essex Institute, V, 1886, pp. 79-96), numbering 241 species. This brought him prominently to the notice of the leading American ornithologists, with a number of whom he maintained for many years a very active correspondence. In 1886 appeared his 'The Birds of Ontario, being a list of Birds observed in the Province of Ontario, with an Account of their Habits, Distribution, Nests, Eggs, etc.,' an octavo volume of about 300 pages. A second edition, entirely rewritten and greatly enlarged, including descriptions of the species, was published in 1894, forming an excellent and greatly appreciated manual of the Birds of Ontario.

In 1883 Mr. McIlwraith was invited to the meeting of the leading American ornithologists, held in New York City, which resulted in the founding of the American Ornithologist's Union. He was made a member of the Committee on Bird Migration, and the work of the District of Ontario was assigned to him for supervision. In 1889 he was elected a member of the Council, which office he held for one year. He had gathered a large collection of Canadian and British birds, many of which he had mounted. He was warmly esteemed in the community in which he lived, and left a wide circle of friends among the members of the A. O. U., by whom he has long been held in high respect.

JOHN NATHANIEL CLARK, a Member of the American Ornithologists' Union, died at his home in Saybrook, Conn., Jan. 13, 1903, at the age of 72 years. He was born in Saybrook Jan. 14, 1831, and was a descendant of John Clark of England, who settled at Saybrook Point in 1636. He was widely known and greatly respected, and had long taken a prominent part in the affairs of his native town, having for sixteen years held the office of probate judge, besides filling other public offices with credit and

fideliſy. He was educated in the public ſchools of his native town, and during his earlier life taught ſchool for twenty years in Westbrook and neighboring towns.

From early life he was enthuſiaſtically intereſted in birds, and for many years was an authority on the birds of ſouthern Connecticut. He had gathered a nearly complete collection of the birds, and their neſts and eggs, of his region, and from time to time for many years contributed intereſting notes of his diſcoveries to various natural hiſtory journals, notably to 'The Auk,' and its predecessor, the 'Bulletin of the Nuttall Ornithological Club.' He was the firſt to make known the neſt and eggs of the Little Black Rail, two neſts of which were diſcovered by him at Saybrook, Conn., reſpectively in 1876 and 1884.

Mr. Clark was a regular attendant at the annual Congress of the American Ornithologiſts' Union, participating in its proceedings, and where his preſence was always welcomed as a pleaſant feature of the occaſion. He was abſent from the laſt Congress, but contributed, as uſual, to the program of the meeting. His laſt paper, entitled 'The Domeſtic Affairs of Bob-white,' is published in the preſent number of 'The Auk' (pp. 161-164). He had many warm friends among the older members of the A. O. U., by whom his memory will be long cheriſhed, not leſs for his amiable perſonality than as an ardent field ſtudent of birds.

EDWARD STANLEY WATERS, an Associate of the American Ornithologiſts' Union ſince 1894, died at his home in Holyoke, Maſs., December 27, 1902, at the age of 71 years. He was born March 22, 1831, at Salem, Maſs., where his family had reſided for ſeveral generations, and where his father was judge of the Salem police court. After a preparatory courſe at the Salem Academy he entered Harvard University, but ill health prevented his graduation. He became, however, a civil engineer, and at the outbreak of the civil war he joined the Engineer Corps, and was ſoon aſſigned to the ſtaff of General Burnſide, and later to that of General Meade. Although engaged throughout the remainder of his life in engroſſing buſineſs affairs, he was greatly intereſted in natural hiſtory, eſpecially in botany and geology, and evidently in ornithology, although he published little if anything relating to theſe ſciences. He was an expert hydraulic engineer, and the conſtruction of the big dam at Holyoke, acroſs the Connecticut River, and one of the largeſt in the country, is a monument to his engineering ſkill. At the time of his death, and for many years previously, he was the treaſurer and agent of the Holyoke Water Power Company. He was recognized as a man of high moral tone, but is ſaid to have never mingled much in ſocial life or in politics, belonging to but one organization, the Holyoke Horticultural Club. He is ſurvived by two brothers, one of whom is Henry Fitzgilbert Waters, of Melroſe, Maſs., the well-known genealogiſt.

THE MICHIGAN ORNITHOLOGICAL CLUB was organized in Detroit, Feb. 13, 1903, to succeed an earlier similar organization which disbanded about three years ago. The officers elected are: President, A. B. Covert, Ann Arbor; Vice-President, Dr. Philip E. Moody, Detroit; Secretary-Treasurer, Bradshaw H. Swales, Detroit. A bird protection Committee was established, consisting of Edward Arnold, Chairman, Battle Creek; James B. Purdy, Plymouth; and Prof. Walter B. Barrows, Agricultural College; to act in conjunction with William Dutcher, Chairman of the American Ornithologists' Union Bird Protection Committee. The Club will publish a journal to be called the 'Bulletin of the Michigan Ornithological Club,' with A. W. Blain, Jr., as editor. It will be an illustrated quarterly, devoted to the ornithology of the Great Lakes Region. One of the purposes of the Club will be to secure more effective legal protection for the birds of Michigan. The Club has already about fifty members, scattered throughout this and the adjoining States. Monthly meetings will be held at Detroit, and an annual meeting at the same time and place as the annual meeting of the Michigan Academy of Sciences.

THE SECOND annual meeting of the Vermont Bird Club was held in the Williams Science Hall in Burlington, January 16 and 17. Papers were read by Mrs. E. B. Davenport on 'Birds of Mount Mansfield observed between June 6 and July 31, 1902,' mentioning 75 species; by Carleton D. Howe, 'Some suggestions to the Vermont Bird Club'; by G. H. Ross, 'Nesting of the Golden-crowned Kinglet,' an account of ten nests found in Rutland County; by Miss M. M. Tuttle, 'Nesting of the Prairie Horned Lark,' in Poultney, in March, 1902. Mrs. Davenport gave an account of the last meeting of the A. O. U.; Mr. Ross reported the taking of a Barn Owl in Danby; Prof. Votey reported the Red Phalarope from Greenboro, and Mrs. Horton an albino Cuckoo from Brattleboro. Twenty new members were added, increasing the membership to nearly one hundred. The following officers were elected for the ensuing year: President, Prof. G. H. Perkins, Burlington; Vice-President, C. D. Howe, Essex Junction; Secretary and Treasurer, G. H. Ross, Rutland. Steps are to be taken to secure an accurate list of the birds known to occur in the State, with the object of publication.

WE REGRET to learn from the publishers (Dana Estes and Company, Boston) that the publication of the new edition of Dr. Coues's 'Key to North American Birds,' announced to appear in the spring of 1903 (see Auk, XX, p. 97), is unavoidably deferred till the coming fall.

'THE WARBLER' is the title of a new ornithological magazine, of which the initial number (Vol. I, No. 1) has just appeared. It is of royal octavo size, and will be published bi-monthly, by the Mayflower Publishing Company (John Lewis Childs, president), at Floral Park, N. Y., under the editorship of the Rev. H. C. Munson. ("Subscription price, 30 cents for 3

years.") 'The Warbler' was formerly a department of the popular journal of floriculture 'The Mayflower'. It will be devoted "to the study and protection of North American wild birds, and to promoting a better appreciation of them." The present number well sustains the above-quoted editorial promise. Among the popular articles on birds is the beginning of a series of papers on 'Birds of Prey', illustrated with half-tones of groups of specimens in Mr. Childs's very large collection of mounted North American birds at Floral Park, to which, we learn from 'The Warbler,' he has just added a fine specimen of the Labrador Duck, purchased of the Free Public Museum of Liverpool, England, for \$1000.

AT THE last meeting of the American Ornithologists' Union, held in Washington, Nov. 17-20, 1902, the question of holding the next meeting of the Union in California was considered. For various reasons an attempt to hold the regular annual congress so far from the geographical center of the membership seemed impracticable, and the proposition finally took the form of a proposed special session, for the presentation of scientific papers, to be held in California during the spring or early summer of 1903. The matter was finally referred to a committee, with power to make all the necessary arrangements for such a meeting, provided the proposition proved feasible. This committee consists of Dr. C. Hart Merriam, Dr. T. S. Palmer, and Mr. John H. Sage. Late in February the Committee issued a circular of information, stating that "the railroads are not only willing to grant very favorable rates, but that most satisfactory arrangements may be made with respect to stop-over privileges." It also gave the following itinerary for the outward trip:

"The plan is to leave Chicago May 3, to reach San Francisco on or about May 13, and to hold the special meeting May 15-16 in conjunction with the California members of the A. O. U. and the members of the Cooper Ornithological Club. The stop-overs now planned are at Albuquerque and Santa Fé, New Mexico, the Fossil Forest on the Desert of the Little Colorado, the Grand Cañon in Arizona, and San Bernardino, Riverside, Pasadena, and Los Angeles in southern California. This will enable the party to visit points of greatest historic, ethnologic, and scenic interest in Arizona and New Mexico, including the old Mexican town of Santa Fé and at least one of the picturesque Indian pueblos where the stone and adobe dwellings and picturesque costumes of the people are in strange contrast with those of the East. The feature of the trip will be the stop at the Grand Cañon of the Colorado in northern Arizona, where time will be given for a descent into the most sublime and wonderful chasm known in the whole world.

"In southern California the route traverses the Mohave Desert with its fringing belt of tree yuccas, and then descends through Cajon Pass to San Bernardino, whence a side trip is planned to the celebrated orange groves at Riverside. At Pasadena an opportunity will be given to ascend Mt. Lowe in the Sierra Madre, and at Los Angeles to visit the coast at Santa Monica or Redondo." A trip to the Yosemite is also planned.

The cost of a round-trip ticket will be a single fare from the starting point to Chicago, plus \$50.00; to which should be added \$6.50 for the round trip to the Grand Cañon, making a total of \$74.50 for the round-trip ticket from New York.

The tickets for the round trip are good from May 2 to July 15, and the return trip may be made over any route the holder may be pleased to select, with an additional charge of \$11.50 if the return is made by way of Portland or Seattle, over either of the northern roads. The plan is to go as a single party, then disband and return as the various members may elect, as regards date and route. With the unrestricted stop-over privileges granted by the railroads, members have the opportunity of devoting most of the ten weeks available for the trip to sight-seeing or in ornithological field work at such points as they desire especially to select.

The number of applications for enrollment for the trip thus far received seems to render it certain that the plan of holding a special spring meeting in California is an assured success. Detailed information regarding the trip may be obtained from Mr. John A. Sage, Portland, Conn., to whom all communications should be addressed.

MR. WILLIAM DUTCHER, in his annual report as Chairman of the A. O. U. Committee for the Protection of North American Birds, published in the last number of 'The Auk,' showed (see map, pl. III¹) that 16 States had adopted the A. O. U. 'model law,' and 15 others were enumerated which were without such a law, and respecting which the Committee "proposed to make an active effort" to obtain its enactment during the then approaching legislative season. It is a subject of congratulation to all bird lovers that prior to March 20 the A. O. U. model law had been adopted by the legislatures of North Carolina, Oregon, Tennessee, and Washington, and had been favorably reported, or passed through one branch, in the legislatures of Colorado, Michigan, Missouri, Texas, and Virginia. Mr. Dutcher is to be especially congratulated on the excellent results thus far accomplished during the present year, since much of this success is due to his unremitting efforts in this good cause.

THE AMERICAN MUSEUM OF NATURAL HISTORY in New York city began some fifteen years ago to place on exhibition a series of bird groups illustrating the bird life of eastern North America, since which time between 50 and 60 groups have been placed in its exhibition halls. These include a wide range of types, illustrating most of the families of

¹ Unfortunately in 'making up' the January issue the two maps accompanying Mr. Dutcher's report were transposed as to position and number; to accord with the references in the text Plate III should be numbered Plate IV, and Plate IV should be plate III, and their location in the text correspondingly changed. The titles at the bottom of the plates are, however, correct, so that no serious confusion need result.

North American birds. At first the groups were mostly limited to the Passeres, and each group usually consisted of a single pair of birds, with its nest and eggs, or young, as the case might be, placed in their natural surroundings, reproduced in facsimile. Later more ambitious pieces were attempted, but not till 1901 was there anything on a very large scale.

In that year the 'Bird Rock Group' was installed containing seventy-three birds, illustrating seven species, and forming a group seventeen and a half feet long and six feet ten inches high. The species represented are the Common and Brünnich's Murres, the Razor-billed Auk, the Kittiwake Gull, the Puffin, Gannet, and Leach's Petrel, the scene being a section of a cliff on Bird Rock, in the Gulf of St. Lawrence, where all these species nest in close proximity. The reproduction is realistic in the highest degree, so that the group gives the visitor to the Museum an exact representation of the home life of the breeding sea bird colonies in the far north.

This masterpiece of the taxidermist's art is admirably supplemented by a large descriptive label, and with large photographs from nature of portions of the Bird Rock colony, and a diagrammatic explanation of the group. In addition to the label, the Museum has issued a 'guide leaflet' to the group, in the form of a supplement to the 'American Museum Journal,' (Vol. I, No. 11, Oct., 1901), forming an octavo pamphlet of 24 pages, with numerous half-tone illustrations from photographs from nature and of the group. The text gives a history of this famous Bird Rock from the time of its first description by Jacques Cartier in 1534 to the present time, followed by an enumeration and description of the sea birds still breeding there. This pamphlet is placed on sale, for the convenience of visitors, at the nominal price of five cents per copy.

A companion piece to the Bird Rock Group has just been installed, representing, on a similar scale and in an equally realistic manner, the bird life of the seashore as illustrated at Cobb's Island, on the coast of Virginia. This group is of the same length and height as the Bird Rock Group, but the width has been considerably extended, to give room for the better display of the birds, which occupy a sandy beach instead of the irregular face of a cliff.

To supply the background effect, furnished by the cliff itself in the Bird Rock Group, resort has been very successfully made to the skill of the panoramic artist, who has supplied a canvas background appropriately supplementing the scene suggested by the birds in the foreground, with so skillful an effect that the line of junction of the real and the simulated is difficult to distinguish. The number of species included is seven, represented by sixty-three specimens, and their haunts and manner of nesting are presented with extreme fidelity of detail. The birds represented are the Black Skimmer, the Common Tern, the Least Tern, the Gull-billed Tern, the Oyster-catcher, and the Wilson Plover. The scene is a sandy beach, strewn with oyster and other sea shells, interspersed with

tufts of the coarse grass characteristic of such beaches. The group cannot, however, be considered complete until supplied with its large descriptive label, now in preparation, and illustrated with enlarged photographs from nature, and with the 'guide leaflet' that will give the details of bird colony life on the beaches of a low sandy island.

The Museum is to be congratulated on taking the lead in the work of providing realistic representations of bird life as it exists under widely varying conditions in nature, for it is perfectly safe to say that no other Museum in the world has placed before its visitors such attractive and instructive bird exhibits as are here to be seen. Therefore not only is credit due the Museum authorities for furnishing the means and the authorization for such work, but especially to the Associate Curator of the Department of Mammalogy and Ornithology, Mr. Frank M. Chapman, for its conception, and the gathering personally in the field of the material for the groups, the photographs for their illustration, and the supervision of their preparation. To Mr. H. C. Denslow is also due great praise for the skill displayed in the preservation and posing of the numerous individual birds represented, especially the downy nestlings and half grown young which form so important a feature of the exhibit.

THE NATIONAL COMMITTEE of Audubon Societies has begun to issue a series of 'Educational Leaflets,' which it is hoped will be the means of doing much good among agricultural people and in the schools throughout the country.

No. 1, treating of the Nighthawk, was published Jan. 1, 1903, and No. 2, on the Mourning Dove, March 1. No. 3, on the Meadowlark, and No. 4, on the Robin, will be published May 1 and July 1, respectively.

It is hoped that the demand for these leaflets will be so large that the Committee will be warranted in continuing the issue at intervals of two months until a large number of the common species of birds of North America have been thus treated.

The leaflets are of uniform size, $5\frac{1}{2} \times 8\frac{1}{2}$ inches, 4 pp. The first page is illustrated with a half tone 4×5 of the species treated, from original drawings by Louis Agassiz Fuertes. The second page gives the description and distribution of the species, while the remainder of the leaflet gives the latest facts regarding the economic status of the species, from data furnished by the Biological Survey, U. S. Department of Agriculture.

Each leaflet contains a series of 'Study Points for Teachers and Scholars,' which will, if followed, enable them to gain a comprehensive knowledge of the bird in question.

These leaflets can be supplied for 50 cts. per hundred, or \$3.00 per thousand, postage or expressage included.

If the members of the A. O. U. will encourage the distribution of these leaflets they will be advancing the cause of bird protection along educational lines, the channel through which the most good can be done at the present time.—WILLIAM DUTCHER, *Chairman, A. O. U. Protection Committee.*